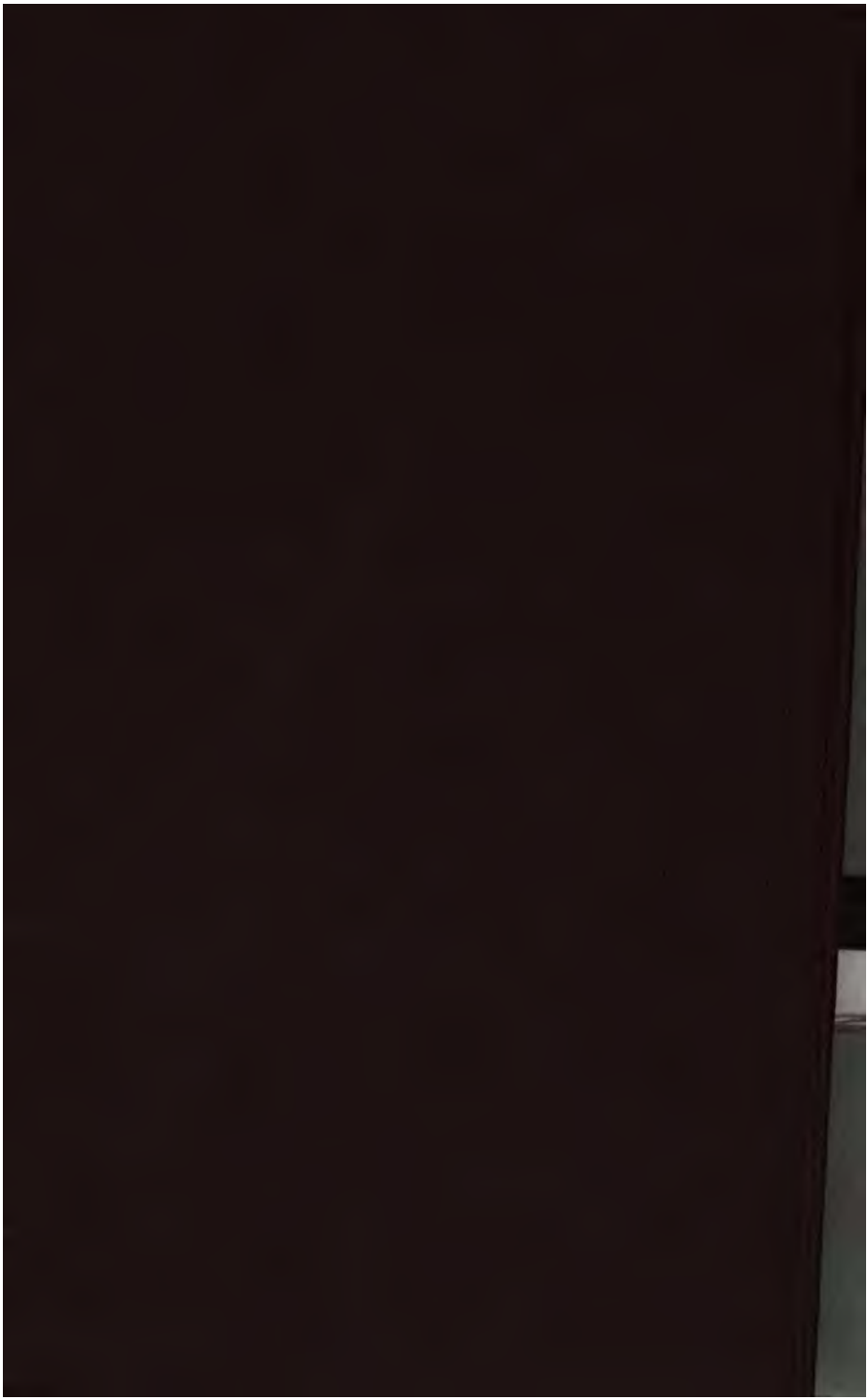

A

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A

PRACTICAL TREATISE

ON

PERIMETRITIS & PARAMETRITIS

BY

J. MATTHEWS DUNCAN

CLINICAL LECTURER ON THE DISEASES OF WOMEN IN THE ROYAL INFIRMARY.

EDINBURGH

ADAM AND CHARLES BLACK

1869

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To the Memory

OF

WILLIAM DUNCAN,

MY FATHER,

AND OF

JAMES MILLER

(LATE PROFESSOR OF SURGERY)

MY FRIEND.

PREFACE.

In laying this little work before the profession, the author has been guided by various motives. The subject of it is surpassed in importance by none of the diseases of women; for the maladies treated of are common, painful, and dangerous, both to functional perfection of the parts implicated, and to the life of the sufferer from any of them.

These diseases have been, and continue to be, the arena of much discussion and of great difference of opinion. They will still, for a long time, present an open field for gynæcological observation and research; for, although authors of distinction describe them without hesitation or doubting, there is very little perfectly well known about them; and the absence

of hesitation or doubt is the result either of ignorance or of a vain belief in groundless assumptions.

The author has no special right to claim professional attention to his own opinions, but he can at least allege extensive experience, some reading and reflection, and a warm interest in the subject. Although his views have been formed with the aid afforded by a considerable number of post-mortem examinations, yet he laments their paucity, and his consequent indecision on many points. The opinions he entertains are very far from being regarded by himself as final. On the contrary, he expects to have to modify them on every side, and it will afford him pleasure to do so; his aim at present being merely to lay down, for himself and others, an advanced stepping-stone to more thorough intelligence of a great matter.

The author has avoided the introduction into his work of long cases, or indeed of cases

given at length at all; for he has felt that his cases, so given, would interrupt his arguments; and would, even if given, produce no complete proof of any disputed point. He has satisfied himself generally with the statement of results.

Few men much engaged both in teaching and practice can find time and opportunity to bring written work to a condition in all respects such as they desiderate. They are generally forced to remain silent, or to present to their professional brethren the results of their observation and study in a somewhat hasty and imperfect manner.

Lastly, the author has to thank Dr. Joseph Bell for some valued criticisms, and for assistance in carrying his work through the press.

DECEMBER 1868.

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CHAPTER I.

NOMENCLATURE.

UPON this interesting topic I shall not enter fully, for, to do so would involve an anticipation of the whole substance of this work. This arises from the circumstance that, in giving names to the diseases here treated of, authors have tried to embody in the very terms their theory of the nature of the diseases. Although this procedure may have some advantages, and though I myself shall adopt it, yet I consider it unfortunate when a disease is prematurely subjected to a scientific nomenclature. Under these circumstances, if science, in its progress, changes the theory of the disease, then the name must be changed; for, if maintained, it constantly suggests a flaw in science, an error whose influence it tends to keep up. It is, in the present state of many departments of medical science, fortunate if a disease has a name expressing no theory, or a theory so absurd, or so old and forgotten, as to have no weight or

influence. The diseases here treated of have never got a name or names of this kind.

In the nomenclature, which I propose to use, there is nothing new. Wishing to inaugurate no new terms that are not quite necessary, I have resorted to such names as have already been proposed and used, and as will adapt themselves easily, and in accordance with the views of their introducers, to the opinions propounded in my treatise.

Milk-deposits is a name I reject, because the diseases have no connection with this secretion.

Pelvic abscess is a name I reject, because the diseases often do not end in abscess, and because they often extend beyond the pelvis. Pelvic abscess is a good and sufficient name for what the words simply imply.

Inflammation and abscess of the uterine appendages I reject, because it does not include the uterus itself; because it is more a descriptive title of a chapter in a book than a name; and its imperfections, even as a descriptive title, are great. Besides, it is too comprehensive, for I do not intend to describe salpingitis or ovaritis. It does not designate the well-known matters discussed in this volume.

Pelvic cellulitis is a name which I reject, because it is new, and has no recommendations. The disease

described as cellulitis is often not in the cellular tissue, and it often extends beyond the pelvis. Besides, there are really many kinds of pelvic cellulitis which that name is not intended to imply or include.

Periuterine, a word much used by both foreign and British authors, is so bad a compound, and has had such a brief existence, that it deserves no mercy only extinction.

In introducing my own nomenclature, or rather that which I adopt, I must apologise for its many imperfections. I only think it better than any other.

Inflammation and *abscess* are terms needing no explanation. But the word *phlegmon* is not familiar to British readers, and I propose to use it as implying inflammation in the cellular tissue, without effusion of pus, without abscess. This use is common in French authors. We speak of inflammatory œdema; but that is, comparatively, a clumsy expression. According to Johnson, who in his Dictionary quotes Wiseman, phlegmon is a good old though forgotten English word, having the sense to which we propose to restrict it. "Phlegmon," says Wiseman, "or inflammation, is the first degeneration from good blood, and in its own nature nearest of kin to it." *

* *Wiseman*, 3d ed. 1697, p. 14.

Even now, in our most used *Dictionary of Medical Terms*, Hoblyn's, the word is defined in such a way as to require no alteration to adapt it to my purpose. Hoblyn says a phlegmon has a tendency to suppuration. He does not say a phlegmon contains pus. His words are—"A tense, painful, red, circumscribed swelling, raised more or less above the level of the surrounding integuments, attended by a sense of throbbing and a tendency to suppuration."

It is, however, to Virchow * that I am indebted for the suggestion of the chief terms I propose to use habitually. Taking example from the heart and other organs, he proposes to use *peri* to imply inflammation of serous membrane, and he uses *para* to imply inflammation of cellular or connective tissue; and I hope the profession will adopt these convenient and expressive prefixes, with their meanings.

Perimetritis, then, will strictly imply inflammation of the uterine peritoneum.

Parametritis will imply inflammation of the cellular tissue in connection with the uterus.

Similar terms may be framed for the Fallopian tubes, *perisalpingitis* and *parasalpingitis*, and likewise

* *Archiv für path. Anat. und Phys.* 1862. Bd. xxiii S. 416.

for the ovaries. But I shall seldom have occasion to resort to them. In the present imperfect state of our diagnostic resources, it would be mere pedantry to do so frequently. There are only a few cases in which we can assert, during life at least, that the pelvic peritonitis is perimetritis, or perisalpingitis, or perioophoritis, or that the pelvic cellulitis is parametritis, parasalpingitis, or paraoophoritis. To hide our ignorance on this point, it would be convenient if we had a rough word expressing the internal genital organs, to which to prefix the adverbs peri and para. But we have not such a word, and I shall therefore, in accordance with old custom, give the uterus the precedence, and use terms compounded of it, as perimetritis, parametritis, etc., without always implying, by such use, a meaning exclusively and properly uterine but implicating also the tubes and ovaries.

I shall, indeed, use the words *perimetric inflammation* and *perimetritis*, *parametric inflammation* and *parametritis*, with a still wider meaning, implying inflammations, which directly owe their origin to disease or injury of the uterus, tubes, or ovaries. For example, a lumbar abscess or an iliac abscess may be perimetric or parametric in origin, though lumbar or iliac in mere situation.

If the etiological views of Aran are substantiated,

the uterus does not deserve the precedence here accorded to it. It should rather be given to the ovaries or tubes. But I daresay my brethren will agree with me that, in the meantime, it is enough to have an understanding as to the terms. The question of precedence here is not worthy of discussion.

CHAPTER II.

HISTORICAL SKETCH AND DEFINITION OF THE SUBJECT.

THE history of the diseases we are now describing resolves itself mainly into a narration of views held at different times as to the cause or causes of the diseases. This sketch might therefore have been, with propriety, made a part of the chapter on etiology. It is only very recently—that is, in times that may be called post-historic—that the great pathological questions regarding these diseases have been raised and discussed with care.

Notwithstanding the great amount of observation and research that have been expended upon the subjects here treated of, during all the eras of medical science, but especially in our own times, I have not been able to regard our knowledge of them as being even now satisfactory or complete in a single respect. I have read much regarding them, and carefully observed a great deal, and I remain convinced that much more remains to be done before the diseases, to which the title of this book refers the thoughts of the physician, can be said to be arrived even at a sound elementary

condition of scientific progress. There appears to me to be not only no security in the present state of our science regarding them, but certainty that the foundations of our knowledge have not yet been laid. No doubt, a vast collection of observations and opinions has been made, but, though valuable, they are yet in a chaotic state, like the rubbish accumulated by labourers for the production of the future architectural work.

There are many departments of medicine to which remarks like those I have just made are not applicable. The inflammatory affections of the chest present to the physician a category of well-arranged diseases, definite, and generally ascertainable during life. Upon such a basis, the learned clinical physician can attempt to rear from his observation and research a pretty well-arranged mass of knowledge. But who, that is not pinned to some merely clever systematic writer, can say as much for any department of the inflammatory diseases of the female pelvis?

Some authors, with too much self-complacency, seem to regard our subject as a field long won for medical science. As I have indicated, I hold an opposite view. I can only look forward with hope to see a beginning made of a truly scientific clinical treatment of the matter—of such a scientific treatment

as has already fortunately overtaken several other sets of diseases. Speaking of what he calls pelvic cellulitis, a well-known author writes as follows:—"Though neglected and overlooked by our fathers and their predecessors, it is an affection, a full and distinct account of which has been left us in the writings of various old Greek and Roman physicians."* I am tempted to quote from this same author, the so-called "full and distinct," the "concise and lucid" description of pelvic cellulitis by Archigenes.† I do so, not to excite feelings of the ridiculous, but as an illustration, too apposite to be passed over, of how a subject may be misrepresented and misunderstood—how an author can fancy a topic to be in a state of fulness and distinctness, when really the elements of the subject are undecided, and some of the chief parts of it scarcely yet raised as questions. Any one reading the remarks relative to pelvic abscess, ascribed to Archigenes, will at once see that they are curious and interesting; and that, so far from describing any disease, they are so scanty and bald as scarcely to give us more than some suspicion of what he was intending to speak about. One of the first conditions of scientific progress is to be conscious of ignorance,

* *Medical Times and Gazette*, 1859, vol. xix. p. 25, etc.

† *Ibid.* p. 107.

to feel a want, which is the stimulus to grope after further knowledge. "They who do not feel the darkness (says a modern philosopher) will never look for the light."

The remarks of Archigenes, as given by Aetius, and by the author just alluded to, are as follows:— "'Abscess in the uterus, as in other parts of the body, results from a previous attack of inflammation. In the first instance, therefore, the symptoms of inflammation will be manifested, and afterwards, when the pus begins to be formed, the pains are increased, and fever sets in with shiverings, mostly towards evening; a tumour is formed, and a pricking pain is felt; in some cases there is suppression of urine, and in others the evacuation of the fæces is interfered with, or both may be simultaneously affected. But the local pain will indicate the seat of the disease. Then, if it cannot be discussed, the suppuration must be artificially promoted. For this purpose, poultices of linseed, fennel, barleymeal, boiled figs, mallow-root, or turpentine, are to be applied to the lower part of the abdomen and to the loins; or we may even sometimes apply pigeons' dung with oil and honey. The pudenda are to be constantly fomented with a sponge, and vapours are to be introduced into the vagina by means of a reed inserted into the perforated lid of a dish.

The patient must be made to sit frequently in baths containing decoctions of those herbs which have a drawing property, such as pennyroyal, horehound, laurel, sage, mugwort, dittany, centaury. But if the pain should set in still more violently, poppy-heads boiled in water and bruised must be added to the poultices.' Then he goes on to give prescriptions of various medicated pessaries, which may be useful under certain circumstances; and afterwards he proceeds thus:— 'But when the abscess bursts, if the pus be carried into the bladder, and be excreted with the urine, the patient must drink milk and take cucumber-seeds; and poultices such as we have described must be applied, and emollient and odoriferous ointments. But if it makes its way into the intestinum rectum, and escape alone or with the fæces, we must administer a decoction of lentils and pomegranate-bark as a clyster. If, on the other hand, it should burst into the pudendal sinus, when the pus is pure, oil of roses, or tetrapharmacum with fresh butter, and the oil of roses, is to be injected, and the parts are to be bathed with a decoction of roses or lentils, or with the juice of ptisan. When a thin and fetid sanies escapes instead, like that from a noma or a corroding ulcer, a less astringent injection must be used, as a decoction of myrtle-berries, primroses, lentils, and pomegranate-bark.

Should the inflammation, however, still persist after the matter is excreted, the use of the poultices and hip-baths above referred to must be persevered with. If the discharges are unequal, the patient must use fomentations and hip-baths of water, in which wormwood, horehound, vetches, centaury, or lentils have been boiled. The parts, moreover, must be washed out with juice of ptisan, to which honey and oil of roses have been added; but the os uteri and the anus are to be anointed with a cerate of rose-oil or butter, containing a small quantity of the dross of furnaces, antimony, plumbago, or litharge of silver, with some milk from the human female. It may be done also with the juice of lead. But if the matter that escapes be extremely fetid, the pudendal sinus is to be washed out with mead, and the use of it is to be persevered in until the cure is completed.'"

With this amusing specimen of the therapeutical wisdom of the ancients, as well as of their pathology, I shall satisfy myself, and proceed to details of more interest.* It appears to me that the lines of investigation are converging towards the settlement of the great

* For much valuable historical information, see Dr. Charles Bell's pamphlet on *The Constitution of Women, as illustrated by Abdominal Cellulitis;* also the work of Marchal, afterwards referred to.

questions of the pathology generally, and especially of the etiology or causation of the diseases here spoken of. Much attention is of course being directed towards the pressing bedside topics of diagnosis and treatment—subjects to which I shall afterwards apply myself. Meantime, I shall refer to farther historical details only in order to bring out clearly what I wish to show.

First of all, I have to point out that I know no author who defines the subject. I do not blame authors for this omission, because for many no definition was possible. They were constrained to say what little they knew regarding pelvic inflammation and abscess, and there they ended. But now, looking back on the history of progress in this subject, and estimating our present attainments, I think a modern author ought to ascribe limits to what he purposes to attempt to bring within the range of scientific description.

I have named my book "On Perimetritis and Parametritis," and I wish it to be understood that I am considering only inflammation and abscess in connection with uterine, tubal, and ovarian disease, not such inflammation and abscess as are connected with disease of the cæcum or appendix vermiformis, or rectum, or bladder, or bone, or joint; all of which

latter set may be justly named pelvic inflammation and abscess.

Puzos, in the beginning of the eighteenth century, gives his chapter on this subject the heading, "Memoire sur les dépôts laiteux." His theory of the cause and nature of the disease was simply that it was a metastasis of the milk. He does not include these pelvic milky deposits among diseases of the womb, but separates them from them. "The milky deposits (says he) fixed in the lower region of the belly, are almost always situated from the groin of one or other side, on to the anterior superior spines of the iliac bones. There are some where the humor is deposited under the skin and the fat; others between the muscles and the peritoneum. The most important are lodged in the cellular tissue of the peritoneum, in the broad ligaments, or in the ovaries. It is rare for these deposits to attack the viscera."* For Puzos, the disease was pelvic only by an unexplained accident, and it was not uterine nor ovarian in its origin. Long universally entertained, Puzos' opinions have come down to our own times. William Hunter is said to have taught them, and the opinion of Grisolle and of Bennet, that sudden arrest of lactation may cause iliac abscess, is probably a remaining vestige of the extinct pathology.

* *Traité des Accouchements*, etc. p. 357.

Dupuytren says:—"After labour, engorgements are frequently observed in one or other iliac fossa, but they appear in the thickness of the round ligaments whose direction they follow, or else they take origin in the cellular tissue interposed between the broad ligaments of the uterus, may extend from that to the whole cellular tissue of the neighbourhood, and come to project into the iliac fossa." * Dupuytren classes such abscesses with those proper to the iliac fossa; yet he recognises those following delivery as commencing in the round or broad ligaments, and spreading thence. Nevertheless, we have nothing from him of intrapelvic abscess. The disease is for him simply a disease of the iliac fossa; it is neither pelvic, nor uterine, nor ovarian.

Grisolle, it is evident, gives all he knows of the disease now under consideration, in his papers, published in 1839, on abscess of the iliac fossa. He says nothing of intrapelvic abscess, and he takes great care to try to show, (differing from Dupuytren), that inflammation of the uterus and its appendages has nothing to do with the collection of diseases which he designates iliac abscess. "It has also been advanced" (says he) "that metritis, that inflammation of the appendages of the uterus, and specially of the

* *Clinique Chirurgicale*, tom. iii. p. 530.

broad ligaments, were powerful causes of the iliac abscesses which come on in women during the unimpregnated state, but especially during the puerperal period. M. Velpeau says, in fact, that he has twice seen the disease declare itself in women who were suffering from the uterus; but he does not indicate the kind of lesion of which this organ was the seat. M. Piotay likewise cites two cases where the iliac abscess showed itself in the course of an acute metritis. Nevertheless, facts of this kind are infinitely rare. So it is that, consulting all the observations of puerperal iliac abscesses terminating in death, I see only two in which the purulent collection has simultaneously occupied the iliac fossa and the broad ligaments. In a case of M. Vigla's there was found in the fold on the right side a small collection of creamy pus, continuing itself slightly into the cellular interstice which separates the vagina from the bladder, but having no communication with the great collection. Here, it is evident, the small abscess of the broad ligament cannot be considered as having been the point of departure of the vast abscess of which the iliac fossa was the seat. The second observation has been published by Dance; there the iliac collection was observed to be prolonged as far as the broad ligaments; but the symptoms noted at the commence-

ment do not prove that these folds had been the point of departure of the disease. If the practical work be consulted, which Madame Boivin and Duges have published on the affections of the uterus and of its appendages, there is found there no observation of acute or chronic disease which has been complicated with iliac abscess, however grave may have been the disorder on the part of the genital organs. For myself, during a sojourn of eight years in the hospitals, I have myself never observed a single case proving the transmission of a uterine phlegmasia to the cellular tissue which fills the cavity of the large pelvis. From all this it follows that the diseases of the uterus and of its appendages cannot be regarded as a frequent cause of iliac abscesses. Nevertheless, one can understand that they may be sometimes consecutive to an abscess of the broad ligaments, whose cellular tissue is continuous with that of all the pelvis. But the occurrence is infinitely rare, and I believe that the facts known up to this day do not authorise authors to say, as they do, that the appendages of the uterus, and the broad ligaments in particular, are the point of departure of iliac abscesses following delivery."* This quotation sufficiently shows that Grisolle had no knowledge of pelvic abscess. The diseases we are treating of he knew only as part of a combination of

* *Archives Générales de Médecine*, iii. Serie, tom. iv. p. 50. 1839.

diseases called abscess of the iliac fossa. Further, he denied almost absolutely the connection between what he calls iliac abscess and uterine or ovarian inflammation. Grisolle affords an excellent name for a halting-point between the old and the recent doctrines. A learned and able physician acquainted with English medical literature, referring in his writings to the well-known papers of Burne* on tuphlo-enteritis, he knows nothing of intrapelvic inflammation and abscess, or of iliac abscess as beginning by intrapelvic abscess. He recognises no connection between inflammation of the uterus and abscess in the lower belly, or, more specially, abscesses in the iliac fossæ, as he calls them. He knows nothing of adhesive peritonitis in this region, nor of inflammatory serous collections, nor of the distinction of intraperitoneal from subperitoneal abscess.

Let us now come to the recent doctrines, and try to separate them from the new doctrines which we propose to state and support.

There is a great amount of propriety in British writers beginning, as they do, their sketches of the

* Grisolle's views coincide with those of Burne as to the causation of tuphlo-enteritic abscess, and are opposed to Dupuytren's and ordinarily-held modern opinions, regarding the spreading of inflammation from one part and tissue to another. To this point we return in a future chapter.

recent history of this subject with the work* of Doherty, entitled, "On Chronic Inflammation of the Uterine Appendages occurring after Parturition," published in 1843. The best evidences, says this author, to distinguish the disease from typhlo-enteritis and abscess forming behind the iliac and psoas muscles, "are obtainable by making an examination by the vagina and rectum. On introducing the finger" (he continues) "into the former cavity, we find the hardness, so remarkable in the iliac fossa, has extended to the roof of the vagina, which is tender to the touch, and as firm and inelastic as a deal board—a condition which must immediately arrest our attention. Not the slightest impression can be made on it by our pressure, while we may also observe that the uterus is bound down to the affected side, either throughout its whole extent, by which it suffers a lateral displacement, or only partially, so that the fundus is drawn in one direction, while the os tincæ is turned in the opposite." The advance of our knowledge, with which Doherty's name deserves to be specially connected, is contained in the passage just quoted. The hardness felt through the vagina, and the fixation of the uterus, are here distinctly pointed out as cha-

* *Dublin Journal of Medical Science.* 1843. Vol. xxii. p. 199.

racteristic evidence of the kind of disease. For Doherty, the disease is, partly at least, within the true pelvis, and it is in some way or other, if only in time of occurrence, connected with the uterus and its appendages. Indications of similar views are to be found in the writings of authors before Doherty; but it has seemed just to the profession to connect his name with the commencement of our modern views of this disease; and, without entering into nice historical details and balancing of merits, I approve the historical truthfulness of the statements referred to. Doherty has got far past the doctrine of milky deposits in the lower belly or pelvis. He is not misled by feeling the tumour above either groin, into the error of describing his cases along with, or as being merely abscesses of, the iliac fossa.* And this is a very great step, in which he was very soon followed by his compatriot Churchill, who published a paper in the following year, entitled, "On Inflammation and Abscess of the Uterine Appendages."† Churchill considerably extends the scope of the affection de-

* But it has to be remarked that he describes the inflammatory hardness as extending *from* the iliac fossa, instead of *to* the iliac fossa, as any recent author would do.

† *Dublin Journal of Medical Science.* 1843. Vol. xxiv. p. 1.

scribed by Doherty; but the history of the disease has rapidly advanced since Doherty's and Churchill's papers. Both these authors had very indistinct ideas as to the cause and seat of the affection. Doherty thought the chief point in his paper to be the description of a disease, feebly announced by symptoms from the very first, and occurring after the period during which the parturient female is usually considered obnoxious to such attacks.

We now come to the work of Marchal (de Calvi), entitled *Des Abcès Phlegmoneux Intrapelviens,* and published in 1844. This little volume far exceeds in importance all previous writings on the subject. Modern science may be said truly to be working on the basis of Marchal's publication. First of all, Marchal gets rid of the erroneous connection of the disease by name with the iliac fossa. He calls the abscess intrapelvic; but unfortunately he did not know of the writings of Doherty and Churchill, and did not state their important evidences of the disease existing not merely within the pelvis, as Marchal himself defines it, but within the true pelvis. Doherty and Churchill had views of the disease far less extended and true to modern science than Marchal's. No doubt Marchal did not see the importance of some of the statements he made, but he has, to a great extent, issued doctrines

which keep his work in a different position from all preceding writings—namely, as still the best representation of the opinions of recent times.

I end with Marchal, so far as regards my use of historical details to throw light on the state of progress of the topic under discussion. This I do for the following reasons :—first, because the scientific progress of the subject is such that we are only now approaching a new phase or era of the history ; second, because further pursuit of the matter in this way would not be history but criticism of the views of recent authors mostly still living,—would be dogmatising in the style of a historian, instead of humbly contributing to the arrival at truth; and thirdly, because the views of recent authors will be discussed in the course of the remarks I have to make. But with a view to making my own opinions more distinct by the antithesis, and to give an idea of the scope of my work, I shall briefly contrast Marchal's views with them.

Marchal proposes to treat, without regard to sex, all abscesses within the false and true pelves, except those of the perineum. This, it appears to me, is a confounding or collation of diseases which are naturally very remote from one another. I propose to confine my observations to inflammation and abscess

originating in diseases of the uterus and of its appendages.

Marchal's book is, however, really a work on puerperal abscesses. Of its 195 pages, 130 are devoted to this department of his subject. This, it appears to me, gives to puerperal abscesses a numerical importance above what is due.

Marchal describes grave abscesses in connection with disorder of menstruation and other diseases of the generative organs of women, but he evidently knows almost nothing of the greater mass of the cases now described by many authors as examples of pelvic abscess, pelvic peritonitis, and pelvic cellulitis.

Marchal knows little of the difficulties as to the seat of the abscess. No doubt, like his predecessors, and most of his followers, he thought it was in the cellular tissue in the great majority of instances. But he has the merit of distinctly recognising the occasional intraperitoneal site of the abscess, as well as the difficulty of diagnosing the site. The following passages I quote in evidence, and on account of their own value. They relate to puerperal abscess:—"In a list of 16 autopsies," says he, "of which 12 are given among our 50 observations, we find 5 examples of abscess in the subperitoneal cellular tissue, 3 of subaponeurotic abscess, 1 of multiple intraperitoneal

abscess, 2 of simple intraperitoneal abscess, 2 of ovarian abscess, and 3 of mixed abscess. In one of these three last cases, there was a peritoneal abscess and an ovarian abscess ; in the other there were intraperitoneal abscesses, and in addition an abscess of the broad ligament ; in the third there were intraperitoneal abscesses, besides a purulent infiltration and a swelling of the subperitoneal cellular tissue. One might establish four anatomical varieties of these abscesses — namely, 1. Abscess of the subperitoneal cellular tissue ; 2. Abscess of the subaponeurotic space ; 3. Ovarian abscess ; 4. Simple or multiple intraperitoneal abscess. Autopsies show a number quite considerable of these last. Does that imply that they are the most common ? No ; but they are the most grave, on account of the peritonitis, of which they are only the result. We shall make two classes of puerperal abscesses : the first comprising abscesses of the subperitoneal cellular tissue, ovarian abscesses, and intraperitoneal abscesses ; the second comprising the abscesses of the subaponeurotic space. It will be much more frequently the subperitoneal cellular tissue of the iliac fossa than that of the broad ligaments that will become the seat of puerperal abscesses. M. Grisolle thinks so, and the facts seem to prove it. But more exactness is to be

desired in the descriptions, under this head, of future observations."* . . . .

In another place,† speaking of the diagnosis, Marchal remarks—"The distinction is difficult between intraperitoneal abscess, the consequence of partial peritonitis, and circumscribed abscess of the subperitoneal cellular tissue, as it ordinarily presents itself. This distinction is not only difficult; often it will be impossible."

Marchal nowhere describes the common merely adhesive perimetritis, nor the serous perimetritis with encysted serous fluid, nor the inflammatory induration of parametric cellular tissue, or parametric phlegmon.

* *Des Abcès Phlegmoneux Intrapelviens*, p. 93.

† *Ibid.* p. 114.

CHAPTER III.

SOME COMMON ERRORS.

THE first common error, or at least want of precision, on which I animadvert, relates to the site of the inflammatory induration or abscess. We have just seen, in the extract from Marchal, that even now the name "abscess of the iliac fossa" is not quite given up, not even restricted within its own narrow limits. That author still thinks that the subperitoneal cellular tissue of the iliac fossa is the commonest seat of puerperal abscess. Though he does this, yet there can be no doubt that the name "abscess of the iliac fossa," used in connection with puerperal abscess, is fast falling into desuetude, or being restricted in its application as a mere indication of site. The far truer name of "pelvic abscess" is substituted for it; or, as we have already seen and could abundantly illustrate from the most recent writings, the still truer, though still demonstrably erroneous names, "pelvic peritonitis," "pelvic cellulitis," etc., or the unobjectionable though long-worded term, "inflammation and abscess of the uterus and its appendages," are substituting

the pelvis and the uterus and its appendages for the iliac fossa; bringing the disease nearer to its origin.

But the chief errors in nomenclature, which I wish to correct, lie in the use of the terms *abscess of the ovary*, and *abscess or inflammatory thickening and induration of the broad ligament.* Marchal speaks of abscess of the ovary, when diagnosed during life, without the verification of an autopsy. This is a manifest error, and can mean only abscess in the situation of the ovary. But it is not common for authors to speak in this way of abscess of the ovary.

A large abscess of the ovary, such as could be felt through the abdominal wall, must be very rare; I have never seen such a thing.

Inflammation, induration, and abscess of the broad ligament, are terms in constant and common use, and this mode of speaking is most misleading. The quotations we have already given show the derivation of this from old authors. But age does not in this case necessitate or sanctify the deceitful words. The error consists in saying that induration or abscess on the right or left side of the uterus is in the right or left broad ligament. I make no quotations to show this use of terms, because every gynækologist must be familiar with it, and any one who refers to the most recent authors will find examples

of it. Such parametric induration and abscess should be described as being on either side of the uterus, simply. Unless post-mortem examination has verified the situation in the broad ligament, it is wrong to say it is there. No diagnosis during life can make out this site of induration or abscess. Were the condition very frequent, then little more might practically be involved in the then merely philosophically-erroneous descriptions. But the condition is rare, and the descriptions are doubly erroneous—both because they state, as a fact, what is only imagined, and because they suppose a frequency of a condition, which is known to be inconsistent with facts. The inducements to this mode of speaking and writing are very great. For it is made respectable by old usage, and it has a fine appearance of anatomical exactness. I have no doubt it owes some of its use to an old error. It is common, in certain classes of cases of so-called puerperal fever to find pus between the folds of the broad ligaments. This discovery in autopsies by old physicians, was a prominent fact. It was not always known that this pus was generally, not in an abscess, but in the veins or lymphatics. But this erroneously-interpreted fact, that pus is often found between the folds of the broad ligaments, has probably contributed to mislead-

ing authors into their common and erroneous mode of writing. The condition of parametric induration or abscess, specially in the broad ligament, is very far from being common, as a mere student of obstetric literature might be led to believe it to be. Authors, in deserting the name, associating the disease with the iliac fossa, have gone in a right direction, but have advanced too fast and erroneously in substituting for the iliac fossa the broad ligament. No doubt disease of the broad ligament is sometimes observed; and Dr. West* has recorded a striking example of it. But I feel sure that such a condition as Dr. West describes is very far from being common. Besides, as we shall afterwards see, this name is not true to the etiology of the disease. The broad ligaments are not parts in which inflammation and abscess are likely to take their origin, and the same is true of other parts of peritoneal membrane or of cellular tissue.

"The loose mass," says Virchow, "of connective tissue and fat, which supports laterally the vagina and cervix uteri, and at the same time forms the base of the broad ligaments, is one of the most frequent seats of disease, and we would indeed be always thinking erroneously if we would name this disease of the

* *Lectures on the Diseases of Women.* 3d edit. p. 423.

broad ligaments. The name parametritis will remove the difficulty."*

There is another error which I deem worthy of particular attention. I shall have again to refer to it when I come, in another chapter, to consider more specially what is called cellulitis. This consists in the division of pelvic inflammatory tumours, into abscesses or those which have suppurated, and those which have not suppurated, on grounds which do not justify such a classification. Reference to recent authors easily shows that those cases are regarded as abscesses in which pus is seen to issue from the inflammatory tumour or its immediate neighbourhood, and that those are regarded as not being abscesses where no pus is so seen. Now this last is certainly sometimes an erroneous supposition, as autopsies have shown me. For, first of all, the tumour may have inflammatory contents which are not purulent; and secondly, the tumour may be really an abscess and discharge itself without ever being felt to be soft or fluctuating, and without a drop of pus ever being seen. This last circumstance occurs when the abscess is small, and the evacuated pus is slowly discharged and mixed with fæces; or, in any case, when the abscess discharges itself into

* *Archiv für path. Anat. und Phys.* Bd. xxiii. S. 416.

a mucous passage very slowly or high up in the course of the alimentary canal.* Moreover, most authors, who argue in this way, forget that the mass may be neither phlegmon, abscess, nor serous collection, but only induration, the result of perimetric or perioophoric adhesions.

* "If in fact," says Grisolle, speaking of iliac abscess bursting into the intestine, "the opening is small, if the pus does not run but slowly and in small quantity at a time, then the tumour changes little in volume, and attentive examination of the fæcal matters may not enable one to recognise a single globule of purulent matter."

CHAPTER IV.

ETIOLOGY.

I NOW come to consider more narrowly the causation of the diseases under discussion—inflammation and abscess, in connection with disease of the uterus and of its appendages. This inflammation or abscess may be, slight perimetritis, adhesive perimetritis, adhesive perimetritis with numerous little collections of serum or of pus, encysted intraperitoneal serous collections or encysted serous perimetritis, intraperitoneal abscess or perimetric abscess, inflammatory induration of cellular tissue or parametric phlegmon, abscess of cellular tissue or parametric abscess. This great array of diseases is merely a list of various results of inflammation in this locality. Inflammation does not spring up without a sufficient cause. The cellular tissue and the peritoneal membranes are protected, and are believed to be specially disinclined to original or idiopathic inflammatory action. Why, then, are they so frequently inflamed in this region? The theory on which I insist is that these inflammations are all secondary, that they are produced by

inflammation of the uterus, or of the tubes, or of the ovaries, or by noxious discharges through or from the tubes and the ovaries, or by mechanical injury. Without one or other of these causes, this inflammation and abscess is not observed. Of all of the prolific causes, inflammation of the mucous membrane of the womb is, in my opinion, the most common, and this both in the puerperal and non-puerperal states.

Taking, for the nonce, the uterus as representing the internal generative organs as a whole, I may state the theory as follows, with a view to showing how time and research have, as it were, run the disease to earth :—It is not a metastasis of milk. It is not an iliac engorgement or abscess. It is not simply pelvic abscess. It is not simply intrapelvic abscess. It is not inflammation or abscess of the broad ligaments. It is the consequence of inflammatory or other diseases of the uterus, tubes, and ovaries. To be still more incisive, it is most frequently a consequence of endometritis.

To show what extensive bearings on uterine pathology this theory has, I may point out how it corrects the common doctrine that inflammation of the unimpregnated uterus is rare, while pelvic abscess is not. Inflammation of the unimpregnated uterus, says Dr.

Churchill, "is by no means of frequent occurrence. . . . . It scarcely ever occurs before the age of puberty, and is very rare until after marriage." "Pelvic abscess," says the same authority, "is by no means unfrequent, nor is it confined to any period of life; it is most common in those who have had children, but I have seen it in unmarried females, both young and old."* Churchill separates the two diseases not only in their places in his book. He does not show any connection between them. He makes such a statement as indicates their theoretical separation from one another. One is common; the other is uncommon. Now, I assert that, in the majority of cases, pelvic abscess and metritis are stages or conditions of one disease; that, at whatever age or time pelvic abscess is common, at that age and time metritis must be common, and *vice versa*.

In like manner Dr. Bennet, in his well-known work on inflammation of the uterus, describes acute inflammation of the unimpregnated organ as a rare disease,† and the inflammation as rarely extending to the peritoneum;‡ while he at the same time regards inflammation and abscess in the pelvis as by no

* *Diseases of Women.* 1864. Pp. 151 and 308.

† *On Inflammation of the Uterus*, p. 39. 3d edit.

‡ *Ibid.* p. 340.

means uncommon in the non-puerperal state.* According to my views, such opinions are both incorrect and incongruous. Dr. Bennet believes that inflammation and abscess in the pelvis have generally been confounded by ancients and moderns with acute metritis and iliac abscess. According to my views, the confounding of diseases by these ancients and moderns is nearer the truth than the separation of them by most authors of our days.

I am not aware to whom we owe the first statement of my views. I certainly did not derive them at second-hand from any one. They are now, as I shall show, becoming the favourite views of pathologists, so far as puerperal abscesses are concerned. I have long taught them as the true views both for puerperal and non-puerperal inflammations and abscesses.

In the year 1853, writing on this subject, I made the following observations. After a statement of the identity of symptoms of the often unnaturally separated diseases, metritis and pelvic abscess, I added, in regard to the latter affection—"We are of opinion that this is not a separate primary inflammation; that in most such cases of pelvic abscess the primary disease is inflammation of the uterus or ovaries, of acute character, leading to an inflammatory exudation,

* *On Inflammation of the Uterus*, p. 227.

which rarely accumulates in the parenchyma of the uterus or ovary, but generally distends without hindrance the lax cellular tissue surrounding these organs, where it may or may not ripen into purulent matter. This pathology of those abscesses is confirmed by a study of the causes leading to them, especially the use of instrumental treatment for other uterine affections. Further, we find this view strongly supported by the analogy of other organs. Abscess of the pelvic or perineal cellular tissue often results from urethral inflammation, or the use of urethral instruments, or inflammation of the prostate; abscess around the anus or in the pelvis, from rectal inflammations; abscess around the glands of the groin or neck, from inflammation of these glands. And the same may be said of inflammations of joints, and of almost every organ in the body." In quoting this passage, I do not mean now to adhere to every statement in it, but it sufficiently demonstrates my views as to the etiology of pelvic abscess at least fifteen years ago.

Writing in 1855,* I used the following words :— "It is a very general belief, if not the doctrine of the profession, that inflammation of the unimpregnated uterus is a rare disease, and that its symptoms are of little urgency. 'This disease (says Dr. Churchill)

* *Monthly Journal of Medicine.* May 1855.

is by no means of frequent occurrence, neither are the symptoms to which it gives rise at all so marked as might be expected.' Another distinguished author, Dr. Bennet, observes that, 'Inflammation of the body of the uterus, in the acute or subacute state, is not of very frequent occurrence.' These beliefs, erroneous and unfounded as we believe they are, cause obstetric practitioners frequently to fail in diagnosing this affection, and to pursue an injudicious line of treatment of it."

Many authors have enunciated views more or less like mine, either in a casual way or as the key to the causation of some iliac abscesses in women. Among these I may enumerate Velpeau, Marchal, M'Clintock and Hardy, Bennet, Aran, and West.

It is only recently, however, that the subject has been more carefully elaborated, and that the theory I am supporting has been fully arrived at, and this chiefly with regard to puerperal cases.

"The diseases of the uterus," says Velpeau, "its inflammations and its degenerations, scirrhous or cancerous, may bring on, and in fact do bring on, frequently abscesses in the iliac region. It is, indeed, quite easy to comprehend this. In metritis, the inflammation easily extends from the extra-uterine cellular tissue to that which is contained in the thickness

of the broad ligaments, and from thence into that of the iliac region."*

Marchal does not, in the body of his work, enter into the subject of the etiology of intrapelvic abscess, with a view to such a question as we have raised. He describes puerperal abscesses as caused by labour, arrest of lactation, frights, chills, etc., without discussing their mode of action. But near the end of his work already quoted,† he has the following brief chapter, which gives us some reason for thinking his views are, so far as they go, in unison with ours. This chapter is entitled, "Intrapelvic abscesses connected with idiopathic inflammation of the cellular tissue," and is as follows:—"We have," says he, "demanded from the pelvic organs and from the parts which enclose them the cause of the inflammations which the cellular tissue of the pelvis undergoes. Remarkable to relate, we have seen it become inflamed at the expense of everything which surrounds it, and we cannot affirm, unless on *à priori* grounds, that it becomes inflamed on its own account. It results that, pathologically, it disappears in the midst of influences exerted on it from all sides."

Dr. Graily Hewitt has recently expressed a simi-

* *Leçons Orales.* Tome iii. p. 220.

† *Des Abcès Phlegmoneux Intrapelviens,* p. 182.

lar opinion regarding cellulitis. "It," says he, "can hardly be said to be known as an idiopathic affection." *

Speaking of a case, Messrs. M'Clintock and Hardy write as follows :—"It, moreover," say they, "bears in some measure upon the pathology of the intrapelvic abscesses sometimes occurring in the puerperal state, and tends to show that they may be caused by an extension of inflammation from the uterus. From our own personal experience in this matter, we should feel disposed to view these abscesses as being frequently propagated from the uterus, or at least to be consequent upon uterine inflammation of some kind, as symptoms of this latter have in many cases preceded their formation." † Elsewhere, Dr. M'Clintock describes puerperal parametritis as being either a primary disease or a sequela of hysteritis, ‡ regarding the idiopathic or primary form as decidedly exceptional. Describing parametric phlegmon and abscess in the non-puerperal state, he says, "It may present itself under two forms—a primary or idiopathic form, and a secondary or symptomatic. The former of these," he adds, "would seem to be the rarer of the

* *Diseases of Women.* 2d edit. p. 483.

† *On Midwifery and Puerperal Diseases,* p. 256.

‡ *Clinical Memoirs on Diseases of Women,* p. 5.

two, only five or six examples having fallen under my observation." *

Dr. Bennet describes, in lying-in women, a primary form of pelvic abscess, and another the result of metroperitonitis. In like manner, in non-puerperal women, he describes the disease as not unfrequently primary or idiopathic, sometimes the result of metritis.

M. Aran, in his valuable description of periuterine inflammation, leaves no doubt what is his opinion as to the cause of it. "The causes," says he,† "of periuterine inflammation are those of inflammation of the tube and of the ovary, which is almost constantly its starting-point." For him, thus far, perimetric inflammation or pelvic abscess is, as for me, always secondary. But, in eliminating uterine affections from the etiology of it, I cannot accompany him; and I cannot but regard his remarks on this point as irreconcilable with one another. At one place ‡ he says—"Perhaps inflammation of the uterus, principally of its internal cavity, may have a certain place to claim in this invasion of the periuterine organs by inflammation, independently of any alteration of the ovary or of the tube. What I can assert is, that I have not

* *Clinical Memoirs on Diseases of Women*, p. 37.
† *Leçons Cliniques sur les Maladies de l' Uterus*, etc. p. 718.
‡ *Ibid.* p. 673.

yet met with a fact of this kind." While he is so distinct in his statements here, he yet gives at another place* this remark, with which we can entirely acquiesce:—"It is by inflammation of the internal membrane of the uterus, and by the propagation of this inflammation to the tube, that I explain the peri-uterine inflammations which come on, in some cases, in consequence of superficial or deep cauterisations of the lips and of the cavity of the cervix, after the introduction of a sound or of a replacing instrument into the cavity of the uterus, in consequence of an intrauterine injection, of the placing of a pessary or even of a bladder of caoutchouc in the vagina, of a simple vaginal injection, and, in some women, in consequence of sexual connection too often repeated in a given time."

Dr. West seems to adopt the opinion of Aran. "The tendency," says he,† "of recent investigations, too, is to show that here, or rather in the ovary and Fallopian tube of one or other side, is the almost invariable starting-point of the mischief, be the parts involved in it what they may."

Virchow‡ describes parametritis as "sometimes independent, most frequently secondary."

* *Leçons*, etc. p. 721.

† *Lectures on the Diseases of Women.* 3d edit. p. 418.

‡ *Archiv*, etc. S. 416.

I have quoted sufficiently to show how authors are, as we come down to the most recent times, converging towards the opinion which I am defending, that perimetritis and parametritis are never idiopathic or primary, but always secondary or the result of injury. And the rarity of these diseases, after sexual life is over, tends strongly to confirm this view. "Like us," says M. Gallard, "M. Nonat has not met with a single case after the menopause."*

M. Nonat† has broached an opinion which I mention only on account of its extraordinary character. He believes that parametric phlegmon may be a cause of metritis, transmitting to the womb the inflammatory process by way of contiguity. I shall not discuss this now, as I know of no facts which lend it any countenance, and Nonat himself has not supported it either by observations or arguments.

* *De l'Inflammation du Tissu Cellulaire qui environne la Matrice*, etc. These 1855, p. 14. See also Nonat, *Maladies de l'Uterus*, etc. p. 246.

† *Maladies de l'Uterus*, p. 66.

CHAPTER V.

INDIVIDUAL CAUSES.

THAT injury may induce perimetritis and parametritis no one can doubt; and it is useless to enter on this cause, so far as injury, by instruments of whatever kind, is concerned.* Apart from the use of instruments, whether cutting or not, the tissues of the pelvis may be injured and inflamed in various ways, as by the contusion occurring in a difficult labour. Besides, numerous authors truly refer many cases to coitus of various kinds, and I have seen enough in newly-married females, and in young strumpets, to convince me of the reality of this source of pelvic inflammation. In cases of this last origin, there has generally, in my observation, been present distinct ovaritis; and in such, there may be room to question whether the perimetritis and parametritis were the immediate result of injury, or an indirect result, being a consequence of ovaritis. I have observed some remarkable cases of slight uterine inflammation in-

* For some remarks on the influence of mechanical injury, see the work of Dr. Charles Bell, *The Constitution of Women*, etc. p. 23.

duced by coitus when a fibrous tumour was present in the organ; and, as it illustrates the present subject, I may particularise one case. It is that of a young recently-married woman, who believed herself to be perfectly healthy till a few days after her marriage. She then had constant uterine pain and tenderness above the pubes. In the anterior wall of the uterus there was a fibroid of the size of an orange. It had become inflamed. Laxatives, leeching, and rest soon restored health. But the inflammatory disease was reproduced by return to her marriage-bed; and this alternation of health and disease recurred several times, so as to leave no doubt as to its cause.

The mass of professional evidence in favour of the influence of metritis in causing perimetritis and parametritis seems to me to render it a work of supererogation to add my testimony to the same effect. So many cases are observed, after delivery and otherwise, where the first lesion is uterine, and the extended inflammation and abscess a consequence of it, that they must have occurred to every practitioner in the diseases of women.

In many cases the perimetric or parametric disease alone attracts attention, while the primary disease is occult; or its existence may even be denied. This ignoring of the primary disease sometimes arises from

a wish not to discover it, or to entertain the belief in it. But the same blindness to it may arise from other causes. Thus, authors insist on the identity of the symptoms of metritis and pelvic abscess. "The symptoms of inflammation of the uterine appendages (says Bennet) are at first sight similar to those of acute metritis;"* or again, "The symptoms of inflammation of the lateral ligaments in the acute state are often, as we have seen, so similar to those of acute metritis, that, unless there be from the first a deep-seated tumour of an inflammatory nature perceptible in one or both ovarian regions on internal pressure, it is next to impossible to distinguish the one disease from the other by any means except a careful digital examination."

If, then, a pelvic abscess is developed as a result of metritis, it is very likely to hide the metritis, for it immediately follows it, and its paramount and persistent physical phenomena attract attention and cause neglect of the possible primary cause.

I have scarcely ever seen a case of perimetritis or parametritis from the very beginning, without being able to satisfy myself as to its primary cause; and I have watched many through all the stages of

* *Practical Treatise on Inflammation of the Uterus*, 3d edition, p. 232.

their progress. When a case, on being first seen, is far advanced, matter having already collected, it will generally be impossible to discover the cause of the disease, unless its history affords conclusive evidence. An autopsy, even, will often not settle the question, for before death the primary disease may have disappeared, or its characters may be difficult to make out, as in parenchymatous metritis.

"The inflammation," says West, "is in many instances not limited to its original seat, but extends —and that not always by direct continuity of tissue —to the cellular tissue lining the pelvis, or attacks that which is interposed between the abdominal muscles and the peritoneum, constituting the external peritonitis of some writers. In these cases, too, the mischief may recede from the parts which it originally attacked, and the gravity of the secondary ailment may entirely obscure the perhaps transitory affection in which it originated; a supposition that will probably apply to not a few of the instances in which affection of the pelvic cellular tissue and that external to the peritoneum has seemed to be idiopathic."

It was the observation, long ago often made, and ever since then constantly and frequently recurring of pelvic inflammation and abscess of all degrees

* *Lectures on the Diseases of Women*, 3d edition, p. 420.

resulting from various forms of mechanical treatment of uterine disease, real or imaginary, that forced on my attention the secondary character of perimetritis and parametritis. Intrauterine pessaries, uterotomy, or the dilatation of the cervix by tents, have been, historically and otherwise, traced as the cause of the affections in a very great number of instances. In all of these cases, the nature of the treatment led primarily to disease of the uterine mucous membrane; and this confirms the belief that inflammation, especially of it, is a chief cause of the inflammation and abscess under consideration.

In many such cases, where uterine lesions must have been the primary mischief, I have observed, distinctly, ovarian swelling and tenderness precede the coming on of hardness, fixation of organs, and abscess. I make this remark not only for its own sake, but also as a means of accounting for the erroneous opinion, as I regard it, of Aran and West, who think disease of the ovary a more frequent cause of pelvic abscess than disease of the uterus.

Inflammatory disease of the mucous membrane of the uterus, whether after delivery or at other times, as it is by far the most common kind of uterine disease, is also the most common cause of perimetritis and parametritis. This baneful in-

fluence of endometritis, as it is called, is peculiarly well seen in puerperal cases and in gonorrhœal. In the latter, I have never seen pelvic inflammation come on without the presence of ovaritis in addition, and as the ovaritis follows the endometritis, so the latter is itself a consequence of the original vaginitis.* The influence of puerperal endometritis has been asserted, if not fully established, by several authors, especially Buhl† and Klob.‡

I doubt whether a case of acute metritis of any kind, whether parenchymatous or internal, ever occurs without perimetritis or parametritis of some kind, and I have the same opinion as to these inflammations accompanying acute ovaritis.

It is in some cases difficult, with our present knowledge, to trace the connection between the uterine disease and the pelvic inflammation when the uterine disease is not primarily inflammatory

* On this point see Dr. Meadows' translation of the work on diseases of women by Bernutz and Goupil, vol. ii. p. 58. See also, Berkeley Hill: *Syphilis and Local Contagious Disorders*, p. 467; and Bumstead (who refers to Dr. G. T. Elliot): *On Venereal Diseases*, p. 163.

† *Klinik der Geburtskunde.* Von Dr. C. Hecker und Dr. L. Buhl, S. 232.

‡ *Pathological Anatomy of the Female Sexual Organs.* Eng. transl., p. 263.

Thus, clinical observation has repeatedly shown me the occurrence of adhesive perimetritis in cases of cancer at a very early stage of the disease, and I have seen in autopsies perimetric abscesses from the same cause, and without the malignant disease having directly reached the peritoneum.* That uterine cancer does lead to pelvic abscess is well known, and has been attested by, among others, Boivin, Velpeau, Kiwisch, Klob, and Bernutz.

Being well aware that acute ovaritis, both after delivery and especially at other times, is not a rare disease, I have no doubt of its frequently causing pelvic inflammation and abscess. I shall only refer the reader to the work of Tilt, on uterine and ovarian inflammation, for a detailed account of ovaritis, and to the work of Aran, already referred to, for his views as to perimetric and parametric inflammation and abscess being generally a consequence of inflammation of the ovaries and tubes.

It is natural to expect that a cyst, or abscess, or tubercle, of the ovary may burst into the peritoneum, and cause inflammation and abscess, and

* I have elsewhere (*Edinburgh Medical Journal*, April 1866) mentioned the occurrence of the metro-peritonitic cysts of Huguier in connection with uterine cancer. See also p. 88 of this work.

such cases are not very rare. The same accidents may arise from discharges of pus or other noxious substances, as tubercular matter or altered blood, from or through the tubes, either by the natural opening or through a new morbid acquired one. On this topic I have myself elsewhere[1] made some remarks, and much of the literature of the subject may be reached by reference to the writings of Cruveilhier,[2] Buhl,[3] Aran,[4] Hennig,[5] Martin,[6] Förster,[7] Hugenberger,[8] Dessauer,[9] Hildebrandt,[10] and Bernutz.[11]

Authors have devoted a considerable amount of space to statistical details of the comparative frequency of pelvic abscess after delivery, and from causes unconnected with recent delivery. To these

[1] *Edinburgh Medical Journal*, Nov. 1865, p. 407.

[2] *Anat. Pathologique.* Livraison xiii., texte, p. 5.

[3] Hecker u. Buhl. *Klinik der Geb.*, S. 234.

[4] *Leçons Cliniques sur les Maladies de l'Uterus*, p. 629.

[5] *Der Katarrh der inneren weiblichen Geschlechtstheile*, S. 42.

[6] *Monatsschr f. Geb.*, Heft xiii. Bd. i. 1859.

[7] *Wiener Med. Wochenschrift*, 1859.

[8] *Das Puerperalfieber im St. Petersburger Hebammen-Institute von* 1845-1859, S. 18.

[9] *Monatsschrift für Geb.* Jan. 1866.

[10] *Monatsschrift für Geb.* 1868, S. 457.

[11] Bernutz and Goupil on the *Diseases of Women*, *passim.*

statistics I attach very little importance, for they do not always carry with them good evidence of the nature of the cases compared, even in the same practice or report; and this want of satisfaction, as to the justness of the comparison attempted, is increased when reports by different authors are compared. They all tend to establish the fact of the frequent connection of pelvic abscess with delivery at all times. But they show nothing else; and I confess they appear to me incapable of affording results in proportion to the trouble taken with them. I shall therefore only add some to the heap. Within the last few years I have seen and kept notes of this point in forty cases of perimetritis and parametritis. Among these, I find twenty-five connected with delivery at the full time, or with miscarriage and abortion. Fifteen have not been traced to these conditions.

"Another interesting result," says M. Courty, "is, that about two-thirds of these diseases are the consequences of confinements, of abortions, and of subsequent inflammations. West thinks that delivery, abortion, and the inflammations which follow them, stand in the etiology of periuterine inflammations for 77 in 100; Gallard and Bernutz reduce this influence to 45 or 44 in 100; which gives a mean

between the two extremes of 60 in 100, which comes near 55 in 100, or the proportion of the number of cases in which Aran has found peritoneal adhesions, traces of pelvi-peritonitis."*

Bernutz gives a valuable statement of the etiology of a mass of individual cases. I here reproduce it, with the remark that the collection is peculiar, especially in the number of gonorrhœal cases. "I have," says he,† "taken no note of the cases observed by me when in charge of *La Pitié*, because some of the women's beds there are devoted to obstetrics; but an analysis of ninety-nine non-obstetric cases observed in that hospital, in which the morbid conditions under which pelvi-peritonitis occurred was recorded, gave the following results :—

43 were puerperal. { 35 after delivery at term. / 8 after abortion.

28 were blenorrhagic.

20 were menstrual.

8 were traumatic. { 3 after venereal excess. / 2 after syphilitic disease of the cervix. / 2 after the employment of the sound. / 1 after the use of a vaginal douche, employed in a case of membranous ulceration of the cervix.

* *Traité Pratique des Maladies de l'Uterus*, p. 536.

† *Diseases of Women.* Sydenham Transl. Vol. ii. p. 41.

There is another inquiry to which Grisolle and Jacquemier have devoted attention, but without any valuable results—namely, the frequency with which iliac abscess follows delivery.

M. Piotay is quoted by Grisolle as showing that primiparæ are more liable to be affected than multiparæ. This view Grisolle confirms, and it appears to me that it cannot be doubted.*

To recapitulate, I finally call attention to the conclusions I have tried to establish—that perimetritis and parametritis are never idiopathic or primary, and that their causes are either mechanical injury; uterine, tubal, or ovarian disease,—almost always of inflammatory nature, sometimes malignant, sometimes tubercular; or noxious discharges through or from the tubes or ovaries. This view forms a striking contrast with the opinions of many of our best recent authors, some of whom do not discuss the etiology of the diseases at all; some describe these diseases and their consequences in separate and remote chapters of their works, and without indicating the connection between them; while many assert that the diseases may be idiopathic, or caused by cold or suppression of milk, or other more recondite influences.

* *Archives Générales de Méd.* Tome iv. 1839, p. 38.

There is a point in the etiology well worthy of much more attention than it has received—namely, the time at which a woman is, at least comparatively, safe from an attack of perimetritis or parametritis. How long is the dangerous period after delivery, after the commencement of a gonorrhœa, after a uterine operation? I shall only say that I believe the dangerous time lasts much longer than is generally supposed.

CHAPTER VI.

SIGNS OF PERIMETRITIS AND PARAMETRITIS.

BEFORE describing the physical or manual examination of the pelvis in cases of perimetritis and parametritis, it is necessary to define carefully certain terms which are in constant use, and to which a sufficiently exact meaning is not attached. These terms are—fulness, hardness or induration, tumour or lump, fluctuation, and fixation. Terms so plain and commonplace may seem to need no commentary; but I hope, by my remarks, to show that they are too carelessly used, and that there is great need for insisting on their meaning, and their use being restricted to that meaning. Besides, I shall, in doing this, make such practical remarks as will, I hope, form a sufficient description of their use as signs; and it is to be observed that most of what is now to be said applies to other diseases than perimetritis and parametritis, especially to malignant disease and to old pelvic adhesions. All this care and niceness is very far from being mere scientific precision; it is fruitful in practical bearings. I shall indeed have nothing to

say that every practitioner of experience cannot easily verify, or, more probably, has not often verified. Besides, I may remind the reader that our care and niceness have not nearly reached their acme; for, with all that we at present know and can exert, the most skilful are often at fault, unable to diagnose, or, worse, making positive blunders. How much alive practitioners are to this imperfection in our diagnosis is amply proved by the frequent resort to exploring needles, a resort which is, in a sense, a confession of impotence and ignorance.

Diagnosis is made chiefly by use of physical signs, for Sir James Simpson has well said, that, without a physical examination, you cannot be certain of the presence of this disease.*

On Fulness.

Fulness is the state of a soft part, in which it presents increased and abnormal resistance to indenting or partially-displacing pressure. In its highest degree it comes sometimes to have an additional condition of elasticity, and is then called elastic fulness. It is a condition discovered by the hand or by a finger. It is one of those signs, which is so variable in degree, both in healthy and morbid parts,

* *Medical Times and Gazette*, vol. xix. 1859, p. 51.

that its presence, as an extraordinary or abnormal condition, may be honestly asserted by one observer and denied by another simultaneous observer. In every case, therefore, in which it is described, it can be relied on as present only when distinctly asserted by a careful and experienced practitioner. It frequently and fortunately happens that it can be well made out by comparison of parts which are, in health, alike; and when there is a decided difference between such parts, the assertion of fulness can be made with greatest assurance. Thus, for example, when, with a healthy ovary on the right side of the uterus, there is on the left side a very recently and slightly inflamed one, which is not greatly enlarged and not at all fixed,—the practitioner, unable, perhaps, by any kind of examination to feel the ovary, will easily make out fulness on the left side of the uterus, from the marked contrast which, by addition of fulness, the left side will present to the healthy right.

When, as of course often happens in the progress of a case, the seat of fulness comes to be a seat of hardness or tumour, then the state of fulness cannot be felt. But although this is so, yet the state often remains in parts adjoining the hardness or tumour.

The condition of fulness can be accounted for only by vascular engorgement or slight œdema,

except when it occurs in parts where there is subjacent intestine, in which case there may be, in addition, a replete state of the bowel contributing to cause it.

When fulness is felt for through the abdominal parietes, it is frequently simulated by tension or tightness of the anterior abdominal wall, such tightness being produced voluntarily or involuntarily by contraction of the anterior abdominal muscles, the result of mere nervous irritability, or of an instinctive effort to protect subjacent tender parts from painful pressure or handling by the physician.

Fulness, felt both per vaginam and per hypogastrium, is invariably present in some degree in inflammation within the pelvis. Often it is very marked. Its complete absence—the parts felt in the pelvis being quite relaxed, soft, or freely movable—is often as valuable an indication of health as its presence is of disease.

A spurious condition of fulness is well exemplified in the condition described as phantom tumour of the belly, and in many cases of so-called spurious pregnancy. Such fulness can be destroyed by rendering the patient comatose, as by chloroform. These cases are improperly described as tumours of any kind. There is only fulness of the abdomen.

The whole disease is generally quite as much a phantom of the brain of the patient and of the physician, as a tumour, of whatever designation, in the belly.

Of Hardness.

Unlike fulness, hardness or induration is not used figuratively; it therefore requires no definition. Hardness means hardness when used as a scientific term by the clinical physician. But although this is so, it almost necessarily implies immobility. Indeed, for me, this sign, as a condition in perimetritis and parametritis, might almost be called immobility or fixation; and the substitution of this term *fixation* for *hardness* or *induration*, would, in my opinion, tend to correct some erroneous views in regard to pelvic pathology. But I adhere to hardness, as it is a common term, properly applied to a condition of textures around the uterus; immobility and fixation being terms conveniently retained to describe a condition of hard parts, as of the uterus and ovary. The fact, however, that hardness, in the disease under consideration, generally implies immobility, is sufficiently important to be insisted upon. Doherty's words, "firm and inelastic as a deal-board," would give the reader an erroneous impression, did he not

add to the ideas, firmness and inelasticity, that of fixation.

But, although hardness does generally imply immobility, it does not necessarily do so. In some cases of the disease under consideration there is not only hardness but tumour also, sometimes abscess, with mobility, without fixation. Such cases I believe I have seen, but they are undoubtedly rare—very rare.

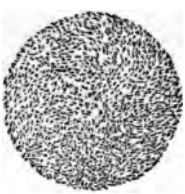

Fig. 1.

Fig. 2.

Fig. 3.

While fulness might be diagrammatically represented as a cloud (Fig. 1), hardness might be a line (Fig. 2), tumour a figure of a square or circle filled (Fig. 3). A tumour, if hard, is bounded by surfaces having more or less of hardness. But hardness does not imply the presence of tumour, whether solid or containing morbid fluids, not even though two different hard surfaces may be felt. For example, hardness felt *per vaginam* at the left side of the uterus, and hardness felt in the abdomen above the horizontal ramus of the left pubic bone,

do not imply the presence of a new tumour filling the intervening space; do not imply a parametric tumour bounded above and below by the two hard surfaces; do not imply an abscess similarly bounded. Yet they are constantly held as doing so. Indeed, I know that this is one of the main errors which has given prevalence to the exaggerated views of the frequency of cellulitis, and of what cellulitis may result in. Thus, a well-known author describes cellulitis as producing, in the stage of effusion of serum, tumours as large as the uterus at the fourth month.* It is not venturesome to say that nobody ever saw anything like this in any part of the human body. The brawny swelling in the neck around inflamed glands, or the inflammatory œdema in the hip around a boil, never, in point of size, approach at any part a mass like a uterus at the fourth month. When there is a tumour of such bulk, there is certainly an intraperitoneal encysted serous collection, or an abscess, or a hæmatocele, which may all be called tumours, or only a mass of intestines and other parts matted together, which may be said to be like a tumour or to form a tumour. In cases of this last kind, the diagnosis is often rendered easier by the discovery of resonance in the midst of the

* *Medical Times and Gazette*, vol. xix. 1859, p. 27.

hardness. Yet so deceitful sometimes is the hardness, and such the difficulty of eliciting resonance, that I have known practitioners of the greatest eminence deceived. I well remember a case of chronic peritonitis producing hard masses in the hypogastrium, which could be felt also *per vaginam*, and which were diagnosed and treated as fibrous tumours, till the autopsy showed what they really were. Here two hard surfaces were held as implying a new solid morbid mass joining them. In the case of the cellulitis as large as the uterus at the fourth month, there is probably this error, and the additional one of supposing that the solid mass could be composed of cellular tissue with effused serum in it.

Hardness, extending from the fixed uterus to the wall of the pelvis, is very characteristic of parametric phlegmon, yet it is felt in almost all cases and in every form of perimetritis and parametritis. This feeling of hardness in the pelvis is extremely deceitful, especially to the tyro. I was a subject of the deception very often when I was a beginner; and even now it is always necessary for me to guard against being misled. The deception lies in taking hardness as implying tumour. A tumour felt per vaginam, or elsewhere, is generally a hard mass, of

which one hard surface only is felt. When a hard surface is felt per vaginam, the practitioner is enticed to suppose there is tumour or thickness of hardness. Sometimes when this deceitful hardness is felt per vaginam, the simultaneous combination of hypogastric with vaginal examination removes doubt and error; but frequently fulness is so great as to destroy the value of this method of investigation. This tendency to error is not illustrated and proved by autopsies, because the conditions which produce it do not lead to death. But a closely-analogous tendency to error is frequently illustrated by post-mortem investigation. In malignant disease of the uterus, when that organ becomes fixed in the pelvis by extension of disease into the loose cellular tissue over the roof of the vagina, the practitioner feels hardness in the pelvis, often very like what is felt in phlegmonous parametritis or adhesive perimetritis. He may image it to himself, and describe it, as a large cancerous tumour or mass of malignant disease filling the upper part of the cavity of the true pelvis. Then the autopsy is made, and he finds no great mass whatever, no tumour, little dense induration of cellular tissue, only some thickening and condensation of tissues. What felt like a tumour is not a tumour. What felt as hard as a deal-board is not nearly as hard.

The same source of error is often aptly exemplified in abdominal ovarian tumours. As is well known, such a tumour, if surgically (though not truly or pathologically) unilocular and thin-walled, and full of very fluid contents, is so soft and easily made to fluctuate as to simulate an ascitic collection. If, now, peritonitis occurs in any part of the anterior surface of this cyst, its characters are completely altered. It becomes nearly as hard as a deal-board, and the practitioner is enticed to fancy that the hardness indicates a thick solid mass or tumour, at least at the inflamed part. Recently, in my experience, a case, illustrative of this series of events, occurred. Dr. Thomas Keith saw the case along with me. Had we not examined the large ovarian tumour before the inflammation came on in the left iliac region, it would have been difficult to make out what were the extraordinary effects of the peritonitis; and it would have been difficult to avoid the conclusion that the tumour, elsewhere consisting of a thin-walled cyst with fluid contents, was, in the neighbourhood of the left iliac region, a semi-solid mass. The post-mortem examination, made by Dr. Grainger Stewart, showed that in the neighbourhood of the left iliac region there was only an inconsiderable thickening and condensation of the whole

structures between the skin and the contents of the large cyst originally diagnosed as filling the abdomen. In this case there were other interesting lesions, but these do not affect the aspect of the case to which I now draw attention.

On Tumour.

Like hardness, tumour needs no definition. Used in connection with the disease under discussion, it implies more than hardness ; it implies a considerable thickness of hardness, or the presence of encysted serum, lymph, or pus, in quantity, and with or without hardness accompanying.

As the distinct feeling of fluid (an encysted serous, bloody, or purulent collection) changes entirely the evidence afforded by the physical sign tumour, we shall, in further discussing this sign, suppose that the presence of fluid is not easily and distinctly made out, when we subsequently speak of tumour in this chapter.

Hardness is itself not proof of the presence of tumour of any kind. Even when two distinct hard surfaces are felt, by combined external and vaginal examination, to move simultaneously when one is pressed, this is not absolute proof, yet there is a near approach to certainty. This approach to cer-

tainty is sufficiently near to justify surgical interference, if on other grounds desirable, should there be dulness on percussing the supposed tumour, renitence, and especially if there is felt from the one hand to the other the impulse of a fluid. In difficult and urgent cases having such physical conditions, the physician may be glad of the aid of the exploring-needle.

Many cases, supposed to be cellulitic tumour, or chronic abscess, are simply a mass of organs mutually adherent and fixed, as in the case of chronic peritonitis mistaken for fibrous tumours, already referred to. Here there is tumour, but not a new tumour formed exclusively of morbid structures.

An abscess often presents only the physical characters of a hard tumour, no fluctuation or fluid impulse being felt in it. Under these circumstances, I have known two large chronic abscesses, one on each side of the uterus, fixing it, regarded by several physicians successively as fibrous tumours.

An abscess may not only present none of the physical signs of fluid contents to the most careful examination of a physician suspecting the existence of pus, but may burst and slowly discharge its contents, without revealing to the physician its true history. Such a set of conditions I verified not long

ago by a post-mortem examination. There was no pus in the evacuations, for the abscess communicated with the small intestine. Such a case would, before death, have probably been regarded as a cellulitic tumour slowly disappearing, in accordance with the notions at present prevalent regarding the parametric phlegmon of women.

The tumour in parametritis is more a mass of indurated, infiltrated, cellular membrane, than a proper tumour. It presents extent more than a great mass or thickness.

In cases of abscess, whether perimetric or parametric, and whether fluid contents are recognisable or not, the tumour may vary in size and position. It may be within the true pelvis, at any point in the neighbourhood of the uterus, or it may be in the false pelvis, or extend above it, or be entirely above it. In size it may vary from the smallest dimensions to very great dimensions, some such abscesses containing pints of pus.

On Fluctuation.

This sign, known to all surgeons and physicians, requires more definition and discussion than might be supposed. It is familiar to the ears of medical students; yet, in teaching clinically, I find that few

really understand it; it is, however, easily taught, and doing this consists in showing the distinction of it from the transmission of mere push or impulse, and from the feeling of a bag or cyst with fluid contents. My chief object now is to point out that, in pelvic abscess, fluctuation is very seldom felt, though constantly, and with palpable error, described.

When, examining per vaginam, the finger feels distinctly an abscess, or any collection of fluid, that is not feeling fluctuation. But almost all authors call this fluctuation. It is merely the educated finger picking up such sensations as enable the mind to perceive a collection of fluid in a cyst or bag. The finger cannot both produce fluctuation and feel the shock of the wave. To do this requires two fingers or two hands, as is familiarly illustrated in the ordinary method of feeling fluctuation in an ascitic abdomen, or in an ovarian cyst, or in a large abscess. Fluctuation is quite possible in a pelvic abscess, but an examiner's finger cannot produce it, still less both produce it and feel it. This feeling of fluid encysted, whether it be serum or pus, is often quite distinctive, leaving no doubt in the practitioner's mind.

In cases of pelvic abscess or serous perimetritis, it is necessary for the feeling of fluid in this way, that it should not only be there, but enclosed with

some tightness. Fluid lying free in Douglas's space, not enclosed by adhesions, whether it be serum, or pus, or blood, may be felt; but the sensation communicated to the finger is, in this case, quite different. It is extremely difficult to find words to express it. It is not the feeling of a fluid. It is rather a feeling of softness, as of a soft œdematous tissue; or Douglas's space is simply felt to be full of something which is perfectly soft, and fills it, but does not distend it. This state is well felt in certain cases of peritonitis, as after ovariotomy, and in the first stage of pelvic hæmatocele, and under other circumstances. It is like the feeling of ascitic fluid through the abdominal wall when not distended; only the tissues between the examining finger and the fluid, in the one case, form a much thinner layer than between the hand and the fluid, in the other.

When a pelvic tumour can be well investigated by combined external and internal examination, the diagnosis of fluid-contents may sometimes be made in an indescribable way, when the mass between the two hands is so hard, when felt through the hypogastrium only, or through the vagina only, as not to afford the sensation of a bag full of fluid. This is a different way of feeling fluid from that first described, for the containing bag is taken between the two

hands. Moreover, this is not feeling fluctuation. It is very valuable. It is scarcely necessary to add that this sign will not distinguish gaseous from purulent or watery contents, as fluctuation does. The same feelings, nearly, will be produced whether the contents are purulent or aeriform, by this kind of manipulation.

Lastly, in fluid pelvic collections, fluctuation may be felt. It is so, very rarely. To feel it, the examination must be bimanual. One hand, or rather finger, may be introduced internally, and the other be external; or both hands, in the case of a very large abscess, may be external. By the fingers of one hand a gentle sharp tap is given to the fluid on one side. It is quickly conveyed to the opposite side, to the other hand, which feels it not as a push or impulse, but as a sharp tap—not as a mere movement, but as a stroke.

M. Bourdon, who is quoted by Jacquemier,* but whose work I have been unable to procure, has evidently felt the importance of the sign of true fluctuation, and the desirability of making use of it, even when the tumour under examination can be felt only per vaginam. In such cases, says Jacquemier, "M. H. Bourdon advises to carry two fingers to the access-

* *Manuel des Accouch.* Tome ii. p. 710.

ible point, in order to make upon it slight movements of percussion with one of the fingers." We need scarcely say that such a plan could be followed only by the most adroit, who have had abundant experience and acquired skill; and, even to such, the testimony gained would be of very little value from the imperfections of the method.

On Fixation.

Fixation and immobility are terms which require no definition. But it is necessary to point out that, as used by the clinical physician of the diseases of women, they often are not intended to imply absolute fixation relatively to the pelvis, but only such a departure from normal mobility as is very marked.

The uterus, when adherent to the sacrum, is absolutely fixed, or very nearly so. When it is adherent only to the tube and ovary of one side, the degree of fixation is less.

In perimetritis and parametritis, of whatever kind, the affected parts almost invariably feel hard and become immovable. But, even when there is abscess, there can sometimes be perceived a small yet distinct amount of movement of the whole mass, made out by combined external and internal examination. This kind of mobility I recently observed,

and verified post mortem, in a case of large encysted serous collection pressing into the brim of the pelvis. The case was one of great interest and difficulty, to which Dr. Sanders drew my attention. On first examining it, I stated my belief that it was an ovarian dropsy, yet I did so with expressed diffidence. The ground on which I thought it was not an abscess, I stated at the time to be its mobility. It did not roll about under pressure, as a fibrous tumour often does, or as a non-adherent small ovarian cyst often does; but it could be displaced laterally more than an inch, measuring on the anterior abdominal wall. Of course the whole mass was not so displaced, but its anterior parts were. The post-mortem examination showed that it was not an ovarian cyst, as I had diffidently asserted. According to Nonat,* there is sometimes full mobility of a parametric phlegmon. But, though I have rarely thought I observed the same, I am not disposed to assert it, as Nonat does.

Before leaving the discussion of fixation, I will point out an occasional result of it — namely, the close adpression of the perineum and posterior vaginal wall to the fixed parts. This condition must be familiar to gynekologists, for it is not rare; only it occurs oftener in cases of malignant disease than of

* *Maladies de l'Uterus*, p. 268.

perimetritis or parametritis; and it appears to me to indicate that completeness of fixation is more common in malignant disease than in perimetric or parametric inflammation. It is discovered by finding the posterior wall of the vagina so closely pressed, by atmospheric pressure, against the uterus and upper and anterior wall, that the finger is with difficulty passed between the soft posterior wall and the fixed parts forming the roof of the pelvis, and opposed to it. The admission of air freely into the vagina removes the difficulty, by destroying the conditions producing it.

There are still other two signs of perimetritis and parametritis available to the physician—percussion and the position of the uterus. They require only a few words.

In the case of a large inflammatory mass rising above the pubes, that does not evidently contain fluid, percussion is useful. For, sometimes, it shows the presence of some degree of resonance, evidence that the inflamed mass is permeated by bowel; that it is not a solid mass. In a doubtful case, this resonance

must be repeatedly sought, for it may be absent at at one time and present at another. Its absence is not proof that the mass is a real tumour.

I have sometimes availed myself, with advantage, of the stethoscope, in cases of this kind, the ear sometimes giving additional evidence that the alimentary current permeates the apparently solid lump.

The position of the cervix uteri is ascertained by the examining finger. Occasionally the whole organ's position can be made out in this way, or by combined internal and external examination. But sometimes, in order to ascertain the position of the body of the uterus, the passage of a probe into its cavity must be effected.

When the disease is merely adhesive perimetritis, the uterus is generally inclined towards the hardness. But when there is a fluid collection in the pelvis, the uterus is generally, as a whole, pushed aside by the tumour, and is found by the probe to be remote from the centre of the hardness or fluid collection.

If the case be one of adhesive perimetritis, the most common of all the varieties of pelvic inflammation, there will be tenderness, fulness, hardness, occasionally the feeling of a lump or tumour; but not a real or new tumour, no feeling of fluid, no fluctuation, no considerable displacement of the uterus.

This kind of inflammation frequently attacks one side of the pelvis, being then often the result of ovaritis; or, strictly, a perioophoritis. Before the adhesions are formed, the ovaritis can often be distinctly made out; the ovary being enlarged, partially prolapsed, and tender. But if such a case is first seen after adhesions have matted all the structures together, it is then often impossible to say whether the ovary is specially implicated in the disease or not, whether it is involved in the tumour-like mass or not.

If the case be one of parametritis, there will be tenderness, fulness, hardness, sometimes the feeling of a lump or tumour, generally some displacement of the uterus.

If there be an abscess, or encysted serous collection, there will be tenderness, there may be hardness, or, in its stead, the feeling of fluid, tumour, and displacement of the uterus.

CHAPTER VII.

SYMPTOMATOLOGY.

THE symptoms of perimetritis and parametritis I shall not describe at length. I know little peculiarity about them except their situation, and what evidently arises from this. The great symptom is pain in the affected part, or painful feelings in its neighbourhood, such as backache, sideache, bearing down, irritation of the rectum, irritation of the bladder, pains as of sciatica, pains in extending one or both legs, or pain in maintaining an extended position, or even inability to extend the limb. Sickness and vomiting are frequent, especially when the peritoneum is inflamed.

Unless physically examined, the case may be regarded as essentially disease of the bladder, or of the rectum, or of the nerves; and of mistakes of this kind, examples in practice are numerous, because many physicians are disposed to rely on symptoms, and feel averse to intrapelvic examinations, with which they are not familiar.

When suppuration occurs, and when it is profuse, these changes produce the usual constitutional dis-

turbance attendant on copious formation of pus, but not always, as various authors testify.

When an abscess bursts into the bladder, it sometimes causes great irritation of the organ, but not always.

When an abscess bursts into the vagina or rectum, the event is signalised only by purulent discharge. If the pus is abundant, and coming away per rectum, it may give rise to frequent calls to go to stool to evacuate the replete bowel.

When an abscess bursts into the general cavity of the peritoneum, and causes diffuse peritonitis, the symptoms are both acute and excessively alarming.

Metrorrhagia is said by Nonat to be a symptom of parametritis. But, like Courty, I cannot give my assent to his statement.

Before leaving the description of the symptoms of these affections, it is important to point out the frequency of the absence of acute symptoms. This is perhaps most remarkable when the disease is certainly perimetritic—a kind of disease that is generally associated in the minds of medical men with acute peritonitic pain and high fever.* In

* This absence of symptoms in cases of partial peritonitis, as he calls it, was well known to Andral, whose remarks on pelvic peritonitis and inflammation of the sub-peritoneal

illustration of what I have said, I might adduce cases of gonorrhœal ovaritis commencing in healthy young girls, and ending in the fusion of all the parts in the pelvis into a solid immovable mass, without the patient losing a cheerful and even gay visage, or making any great complaint of pain, unless interrogated closely, and then alleging the chief suffering to be from irritable bladder. I have repeatedly watched such cases during their whole progress—the ovary at first mobile, then fixed, then lost in a mass of adhesions and indurations.

This course of local peritonitis, without marked symptoms, is frequently exemplified in the history of ovarian cysts. Such cysts not rarely grow to a great size, and acquire extensive and dense adhesions, without the patient ever suspecting she has any disease at all, either ovarian or peritonitic.

The physician can adduce examples of a nearly identical import in this respect, from his knowledge of the history of cases that may be called latent inflammation of the heart and of its investing membrane.

cellular tissue are well worthy of perusal. He says—"In more than one case of this partial peritonitis, local symptoms have been very little marked; there is neither pain nor tumour, nor notable disorder in the functions of the different abdominal viscera."—*Clinique Medicale*, tome ii. p. 656.

This absence of acute symptoms has a bearing on the doctrines held as to the pathology of the diseases under discussion. They are, as is well known, generally regarded as being all, or almost all, cases of cellulitis ; and this erroneous pathology is, I doubt not, confirmed in its place in many medical minds, by the fancied incongruity between the actual symptoms and those generally but erroneously supposed always to attend on peritonitis, even when it is local. Divesting the mind of the invariable association of local peritonitis with urgent and acute symptoms, will make way for the admission of a true pathology.

Before concluding, I wish to make a sort of apology for the baldness and shortness of my account of the symptoms, and I found it upon my belief that we have as yet very imperfectly studied them. When we have full knowledge of them, they will be a rich field for the descriptive powers of the physician, and will probably afford instruction to the practitioner at every step in the progress of a case. And this remark is, I believe, applicable to many diseases besides those under discussion.

How can we advantageously and luminously describe symptoms, when we have not settled what are the events signalised by the varying symptoms ;

when we are only discussing what is the nature of the disease, what the parts affected, what the results of the diseased action? The day will come when, like all things else in nature, these vague and irregular symptoms will take beautiful order and delight the intelligent observer; when there will be a difference between present descriptions of symptoms and those I anticipate, like the difference between astrological and astronomical statements.

CHAPTER VIII.

ON THE SEAT AND NATURE OF PERIMETRITIS AND PARAMETRITIS.

THIS is a subject of very great difficulty, and I fear that it cannot be satisfactorily, far less conclusively, described. The subject is only approaching settlement. During the latest times much labour has been bestowed upon it; and the difficulties to be overcome are not merely those inherent in the subject itself, but those that the subject has by inheritance. Until recently, most authors have assumed, in this way, that the disease was essentially abscess, and that the abscess was in the cellular tissue of the pelvis, and most frequently in that within the broad ligaments, or that situated in one or other iliac fossa. In these views there is, no doubt, some truth, but there is great error, because of their having erroneously assigned to them paramount importance. Both these views have been successfully assailed; the former, that the disease was essentially abscess, by Nonat and many others;

the latter, that the disease was in the cellular tissue, or extraperitoneal, by Bernutz and many others. These great contributions to the subject leave, however, I think, very much yet to be done. I shall now give a sketch of my views, not pretending to expect that they will be final, or will settle the subject, but believing that they are nearer the truth than those now anywhere in vogue. I shall begin with adhesive perimetritis.

CHAPTER VIII.

(CONTINUED.)

ON THE SEAT AND NATURE OF THE DISEASES.

ADHESIVE PERIMETRITIS.

I TAKE this form of disease first, because of its being the most frequent. Perimetritis, not resulting in adhesions, may perhaps be more frequent; but, so far as I know, it is impossible to ascertain its presence, though it may often be guessed to be present with tolerable certainty. I think there can be no doubt it may be present without special symptoms. This absence of notable symptoms I know, from clinical observation, to occur even in peritonitis producing adhesions. A state of dryness of the peritoneum, and consequent rough friction, is often made out by the ear and hand examining an ovarian tumour, which has not yet acquired adhesions at the part under examination. This condition is an early stage of inflammation. It may last for a considerable time, and the experience of ovariotomists shows that it does not always end in adhesions. A like state probably fre-

quently exists in the pelvis, in connection with various diseases of the organs contained in it.

There is no important condition of the internal genital organs of women more common than adhesions. This assertion I make, founding on clinical experience, and it is strongly supported by the statistics of post-mortem investigations, such as Aran has furnished, and to which I shall, in a subsequent chapter, refer. Aran's statistics, of course, include adhesions from all causes—old adhesions, a subject to which I devote a subsequent chapter. Here, I am speaking only of such adhesions as are the result of simple adhesive perimetritis, not such results of adhesive peritonitis as are the remains of perimetric or intraperitoneal abscess or hæmatocele, or produced by parametric phlegmon and abscess.

Peritonitis, resulting merely in adhesions, occurs after abortion and after delivery at any time. This is, by many authors, described as one of the forms of puerperal fever, a proceeding which I regard as a misleading and erroneous use of an ill-defined and misleading term. In this work I have nothing to do with puerperal fever, or such inflammations occurring after delivery as are connected with pyæmia or other forms of blood-poisoning. Apart from these, adhesive perimetritis is not rare. But, in the peculiar condi-

tion of a woman after delivery, peritonitis, set up by an attack of simple metritis, or endometritis, has a great and special tendency to become general and diffuse, and dangerous to life. When it does not do so, but fortunately retains its localisation, it has a great and special tendency to end in suppuration.

In women not recently confined, diseases of the genital organs, and accidents, surgical or other, lead to adhesive perimetritis more frequently than to pelvic inflammation of any other seat or nature.

I have frequently followed adhesive perimetritis in all its stages, in cases occurring after operations, in cases of gonorrhœa, especially of gonorrhœal ovaritis ; and I have frequently observed it in cases of cancer where the peritoneum was unaffected, and where the post-mortem examination verified the observation during life.

There is no doubt that many cases of supposed cellulitis, especially when it is thought to be of a chronic kind, are merely cases of old or past adhesive perimetritis. Sometimes, especially if the disease has not been watched from the commencement, it is difficult to reach a satisfactory diagnosis of adhesions. But, at other times, it is quite easy. If, for instance, the body of the uterus is fixed, as if nailed to the sacrum, while its neck is mobile, and if

this fixation is recent, and if there is no morbid mass in the pelvis, there can be no doubt of its cause. Again, in cases of ovaritis, where the ovary can be felt, the occurrence of adhesions and the gradual fixation of the ovary, and, as it were, concealment of it, may be felt going on under the occasionally examining finger. Such adhesions sometimes appear when the ovaritis is diminishing, when the woman declares she is rapidly recovering. Adhesions, once formed, have a more or less tedious history, which I discuss in another place.

I have been struck with the frequency with which, around the womb, the perimetritis is associated with tubercular peritonitis. And I may add the striking and illustrative observation, though it is not very closely related to our present subject, that I have known tubercular peritonitis to accompany ovarian dropsy in a proportion of cases far above what could be expected, were the association of the two diseases a mere coincidence. I lately witnessed this conjunction of diseases in the autopsy of a young female; and Dr. Thomas Keith informs me that in eighty ovariotomies, he has seen extensive and well-marked tubercular peritonitis four times.

We have alluded to the common mistake of a mass of adherent viscera for a parametric phlegmon. An

analogous mistake has repeatedly been made by ovariotomists. In several cases, an ovarian tumour has been diagnosed, the belly opened, and nothing found but coherent omentum and intestines.

CHAPTER VIII.

(CONTINUED.)

ON THE SEAT AND NATURE OF THE DISEASES.

ENCYSTED SEROUS PERIMETRITIS.

THE first case of the kind now to be described, which came under my notice, occurred in 1855. It at once excited in me great interest on account of its rarity; and although I have, since that time, had extensive experience in pelvic tumours of all descriptions, I have only met with other two similar cases. In obstetric literature, also, I have met with no satisfactory description of cases like those I am now to relate. For the size of the cysts, in my cases, seems alone sufficient to separate them, to some extent at least, from the small serous cysts of the uterus, described by M. Huguier, in his paper "On the Cysts of the Uterus and the Follicular Cysts of the Vagina;"* with which, nevertheless, I am disposed to place them in juxtaposition. It is impossible to decide absolutely how my cases should be named and classified, because none of them ended fatally; and, without autopsies,

* *Mêmoires de la Société de Chirurgie de Paris.* Tome premier. 1847.

one cannot place beyond doubt the seat and relations of the cysts. When M. Huguier's paper was published in 1847, he had only recognised during life a serous cyst of the uterus in two cases, which he describes. Both were, he says, the result of metro-peritonitis, a condition to which he ascribes all the cases known to him; a condition, also, which was certainly present in the three cases which I have seen. By the word "cyst," as used in connection with the cases now under consideration, I do not wish to imply the presence of a cyst-wall proper to the serous cystic contents. Such a cyst-wall or bag, not, however, necessarily a new structure, is implied in the word as used by M. Huguier when he speaks of serous cysts of the uterus. Of Huguier's cysts I lately saw an example in the autopsy of a case of ordinary cancer of the neck of the uterus; where two little serous bags of the size of hazel-nuts were, without adhesions, lying in Douglas's space attached to the lower part of the posterior wall of the uterus by a base narrower than the breadth of the cysts at their middle parts. In the cases to be now recorded, it is probable that the serous fluid was enclosed in the peritoneal cavity, by the parietal peritoneum on the one side and various parts of the bowels and uterus on the other side; these various parts being united

by adhesions; as is frequently observed in cases of perimetric abscess and hæmatocele.

This anatomical site is well illustrated by a dissection of a case of cancer of the body of the uterus recorded by M. Forget of Strasburg. I shall here give some particulars of it on this account, and because it is, in other respects, a case nearly allied to those under consideration in this chapter.* The woman died of cancer of the body of the uterus, at the age of sixty-two. She had seven years previously been believed to have ovarian dropsy. She was four times tapped. The fluid drawn off on the first occasion was brown and muddy: on the two last occasions it was a yellowish limpid serum. On opening the abdomen there was found, in the situation of the supposed ovarian cyst, an ovoid cavity containing a large quantity of a yellow limpid serosity. This cavity was formed, anteriorly by the great omentum thickened and adhering to the anterior wall of the abdomen, posteriorly by the mass of small intestines adhering together and covered by a false membrane. Inferiorly, this cavity seems to have been formed by the uterus and ovaries reduced to a putrilage.

At this point I may mention the few details given of a case which was probably identical in nature with

* *Gazette Médicale de Paris*, 1851, p. 641.

ours, to be found in a lecture by Sir James Y. Simpson.* The patient was a young girl of twelve or thirteen years of age, in whom he had made sure that inflammation had been set up in the broad ligament of the uterus, and caused great swelling and induration of it. He introduced the exploring-needle with the view of bringing away pus and reducing the swelling. But there flowed a transparent fluid that made an onlooker suppose that the bladder had been punctured. A considerable quantity escaped, and it rapidly coagulated in the cup containing it.

I shall now give a case.—Mrs. L., æt. 20, was delivered of a male child in the Royal Maternity Hospital on the 10th September 1855. The labour was natural. She says that for weeks after delivery she was troubled with pelvic pains and rigors, which were supposed to be after-pains. These she describes very vaguely. They continued, with variations of intensity, till near the end of November, when she first felt a lump on the left side of the lower belly.

On the 27th November she came to consult me at the Royal Dispensary. Her state then was as follows:—She had feverish symptoms—quick pulse, hot skin. A large and very tender tumour, easily circumscribed, was felt through the abdominal wall,

* *Medical Times*, 1859; vol. xix. p. 27.

bulging up through the left half of the brim of the pelvis. It was immovable and hard. The finger examining per vaginam found the cervix uteri high up in the pelvis, displaced backwards and fixed. In front of the cervix, the whole left side of the upper part of the cavity of the pelvis was occupied by the hard tumour, presenting no soft or fluid-containing portion. Between the 8th of December, when an examination was made, and the 11th of the same month, when it was repeated, a soft tumour was formed in the recto-vaginal space. I punctured it with a Pouteau's trocar, and a transparent straw-coloured fluid slowly distilled through the canula, to the amount of eight ounces. On cooling, it became grass-green in colour, and coagulated into a jelly. The slow distillation of the fluid was explained by the coagulation of a worm-like mass in the canula, which partially plugged it. The discharge made little difference, except in the recto-vaginal portion of the tumour, which was diminished. On December 14, I again tapped the same part, and drew off about five ounces of similar fluid, and with like results. On December 28, a vaginal discharge began, the nature of which was not decidedly made out. It was not purulent, and did not last long. About this time, the whole tumour had commenced to diminish in size.

Nothing further was done in the way of interfering with the tumour. The patient escaped my observation during 1856 till November. She was then without much complaint, but sought advice for the restoration of her menses, which had not appeared since her confinement. They were re-established in January 1857, and were regular till her death.

In November 1856, the tumour was found to be reduced to a mass of fixed hardness in its old site. The uterus also was fixed. In the early months of 1857 this fixed hardness rapidly diminished, and almost entirely disappeared. She now enjoyed good health.

In the middle of March, she was taken with symptoms of ileus, and, after a few days' illness, died. No connection could be made out during life between her former disease and her fatal illness; and, unfortunately, an autopsy could not be procured.

I shall add another example.—Mrs. N., æt. 38, admitted into the Royal Infirmary, November 17, 1864. Has had four children, and has always enjoyed good health. Had an easy labour three weeks ago, and was delivered of a male child.

Four days after delivery, she was seized with pain about the right inguinal region, shooting through to her back. She was then feverish. Soon she felt a

lump growing in that part of her belly. She was about this time seen by Dr. Andrew Inglis, who regarded her case as one of pelvic abscess.

In the right hypogastric region there is felt a large tumour, extending as high as midway between the umbilicus and pubes, and from the right side of the belly to a little beyond the mesial line. It is scarcely tender now, when pressed. Some resonance on percussion can be heard over it. The cervix uteri is high in the pelvis, and pressed forwards against the symphysis pubis. Behind the cervix uteri, the upper part of the pelvic cavity is felt to be occupied by a hard bulging mass. The uterus lies in front of the tumour; its cavity is nearly three inches long; the examining probe easily slips through the left Fallopian tube into the peritoneal cavity.

November 19.—The tumour was punctured per vaginam by a Pouteau's trocar, and about nine ounces of fluid, scarcely turbid, and of a light-green colour, were drawn off. The fluid, on microscopical examination, was found to contain a few pus-cells. The cervix uteri now resumed its natural situation. The abdominal tumour was reduced to a hardness felt rising an inch and a half above Poupart's ligament.

December 3.—The patient, feeling well, would not remain longer in the hospital. On leaving, no

tumour could be felt. But the uterus was fixed, and a hardness occupied the pelvic cavity above and behind the cervix.

She promised to return, if she found her malady not completely removed. But she has not again been seen at the hospital, nor by the physicians who took care of her at her own home.*

I know of no records of cases resembling those now narrated. The large bulk of the cysts in these cases distinguishes them, as already said, from those described by Huguier. But, regarding such cases as I have here given as of possible occurrence, this distinguished author makes the following remarks :— "Leur volume varie à l'infini, depuis celui d'un grain de millet jusqu'à celui d'un œuf de poule ou même d'une orange. Bien que je n'en aie pas rencontré de plus volumineux, on conçoit qu'il puisse en exister ; peut-etre même les exemples de prétendus kystes de l'ovaire, qui, au rapport de MM. Sedillot et Camus, ont guéri spontanément après s'être ouverts dans l'abdomen, les deux cas qu' Auguste Bérard me disait avoir guéris à l'aide de l'acupuncture, étaient ils des kystes séreux et volumineux, de l'utérus ; car on sait combien la simple ouverture ou ponction des kystes

* Chiefly from the Hospital Report, by Dr. J. C. Russel.

ovariques est rarement suivie de guérison." This suggested explanation of supposed cures of ovarian dropsies by simple tapping, or by spontaneous bursting into the peritoneal cavity, is very satisfactory. With M. Huguier, I regard such cures as in a high degree doubtful;—considering, at all events, that, while post-mortem verification of such cures is absent, they are pretty well explained by supposing that, instead of ovarian dropsies, inflammatory serous cysts, cases of serous perimetritis, were the subjects of the treatment.

In my cases, it was never a question whether the disease was ovarian dropsy or not. They had characters sufficient at once to remove them from that category. They were rapidly produced under inflammatory symptoms in their site, they were immovable, they were tender to the touch, they displaced and fixed the uterus. In short, they presented all the appearances of ordinary perimetric or parametric abscess, and as such they were treated.*

But, though at first supposed to be abscesses, their subsequent history, at least after tapping, showed the error of this notion. For in no stage of ordinary pelvic inflammation or abscess does the

* See a remark by Dr. M'Clintock on cysts behind the uterus.—*Clinical Memoirs on Diseases of Women*, p. 260.

plunge of a trocar lead into a cavity, or result in the copious flow of serous fluid. Such a paracentesis, however, does lead into a cavity, and does result in abundant discharge of serous fluid in certain cases of inflammation of the tunica vaginalis testis, of the pleura, the pericardium, the arachnoid cavity, and the cavities of the ventricles of the brain. In this place I shall not enter upon the question whether the not unfrequent inflammatory serous accumulations, which I have enumerated, are identical in nature with one another, or whether any of them is analogous to that described in this chapter. I merely wish to point out a source of analogies to be studied in connection with this topic. Authors may be found who speak of serous, fibrinous, and sero-fibrinous inflammations of the pelvic peritoneum. But none describe cases like the two here related, where the accumulated fluid might justify a comparison of them with certain inflammatory effusions in the pleura or pericardium.

Besides the cases referred to in this chapter, I have seen other encysted peritoneal serous collections. But they were not certainly perimetritic. Thomas has observed a perimetric case.* "I have elsewhere reported," says he, speaking of pelvic peritonitis, "a case in which I drew off one or two ounces of

* *Diseases of Women*, p. 379.

serum, under these circumstances, to the great relief of the patient, who rapidly improved and did well. It is the only case," he adds, "in which I have ventured to invade the peritoneum under these circumstances."

CHAPTER VIII.

(CONTINUED.)

ON THE SEAT AND NATURE OF THE DISEASES. PERIMETRIC ABSCESS.

THE papers of Bernutz, originally published in the *Archives Générales de Médecine*, and subsequently collected in his work on the diseases of women, will, I believe, form to the future medical historian of the subject of this book one of the chief landmarks in it. From the comprehensive work of Marchal he will pass to the descriptions of pelvic peritonitis by Bernutz, and if he has to point out that Bernutz's view of the subject was too limited, and in some parts incorrect, he will not, in doing so, make any detraction from the merits of Bernutz greater than the fame of all other pioneers in medicine has to submit to.

Bernutz pointed out the error of the cellulitic theory, and of a great part of Nonat's defence of it. He tried to show that the so-called periuterine phlegmons of that author were not phlegmons at all, but results of pelvic peritonitis. He appealed to the

evidence of post-mortem investigation, and, so far as he went, successfully and triumphantly. Cases, with exactly the symptoms and signs of cellulitis or parametric phlegmon, he showed, by autopsies, to be cases of pelvic peritonitis. But Bernutz forgot that all questions cannot be settled by autopsies; and that, indeed, in the disease which he was discussing, a fatal result was not common. There might, therefore, be a vast array of cases of importance, though never fatal, whose pathology the dissecting-room could only illustrate by some rare accident bringing a patient with the slight disease there; and I believe this critical remark applies in all its force to Bernutz's reasonings.* For myself, I do not hesitate to accept this author's conclusions, if regard is had only to the majority of grave cases of pelvic abscess; admitting, at the same time, that his views are true also in regard to many comparatively trivial cases. My adoption of Bernutz's views is not founded on clinical observation merely, but on several post-mortem investigations made by myself, or for me by able pathologists. In thus expressing my conditional adoption of the opinion of Bernutz as to the seat of pelvic abscess, I have to add that in many respects,

* See a remark by Marchal, on the value of autopsies in this point of view, quoted in p. 24 of this book.

as to etiology and other points in pathology, I differ from him, as my remarks will show.

M. Bernutz, it appears to me, has been carried away by his enthusiasm into indefensible arguments for the frequency of pelvic peritonitis and the rarity of parametric phlegmon. I shall quote his words containing this bad reasoning:—"It must be admitted," says he,* speaking of two cases reported in France by Demarquay and Simon, "that these two cases, imperfect though they be, and the only two which can be quoted in favour of M. Nonat's opinion, render it impossible for us to deny the existence of periuterine phlegmons; and it is equally certain that pelvic peritonitis is not so rare an affection as Dr. West has supposed. The number of my cases, none of which is incomplete, is much greater than those which are adduced as examples of periuterine phlegmons; and this, I think, proves that pelvic peritonitis is the rule, periuterine phlegmons, if they exist, which I do not dispute, the exception, notwithstanding that the opposite opinion is held in England. I shall not further insist upon this point—which cannot indeed be controverted except by the

* *Clinical Memoirs on the Diseases of Women.* By MM. Bernutz and Goupil. Sydenham Translation, by Meadows, vol. ii. p. 37.

production of a number of carefully-recorded cases, together with their actual post-mortem appearances. The latter is a point of absolute necessity in all gynæcological researches; and it is especially so in the case of periuterine phlegmon—a disease the anatomy of which has been simply traced out by induction."

So far do I differ from Bernutz, that I maintain that very much of our knowledge of the anatomy of disease, and even of the very disease under discussion, is acquired by induction—is impossible of attainment without induction. Further, there are common diseases which are rare in the post-mortem theatre, and there are rare diseases which are comparatively common there. And, if we distinguish between the different forms of the disease we are now discussing, we could find abundant proof of this position, both in its own history and in Bernutz's book. But as this is purely polemical, I shall drop the subject without entering on proof, merely reiterating that post-mortem verification is not essential to the demonstration of the frequency of diseases.

Bernutz* and Aran† regard abscesses such as

* *Clinical Memoirs on the Diseases of Women.* By MM Bernutz and Goupil. Sydenham Translation, by Meadows, vol. ii. p. 37.

† *Leçons Cliniques sur les Maladies de l'Uterus*, p. 674.

we here discuss as never being iliac; and they ridicule West for describing simultaneously iliac and periuterine abscess. While so doing, they both admit that inflammation of the cellular tissue may extend from the neighbourhood of the uterus to the iliac fossa, and cause abscess there. They thus seem to me to attempt to make an essential distinction between iliac and what they call periuterine abscess, separating them from one another.

I regard this separation as a great mistake, whatever may be the exact seat of the abscess. Many iliac abscesses, so called from the position of the mass of the purulent tumour, and whether perimetric or parametric, are, in every sense, as truly uterine, or, in other words, owe their origin as much to disease of the internal genital organs as any other. Abscesses, like hæmatoceles, may be mostly above the true pelvis, and be more abdominal or iliac tumours than pelvic, though getting their origin thence.

A perimetric or parametric tumour may be a hypogastric tumour or an iliac tumour, either from its bulk extending it from the true pelvis into the hypogastric or iliac regions, or from its bulk being originally developed in these situations after extension thither. In cases of perimetritis, the suppuration

may be coextensive with the peritonitis. But further, the suppuration may be at any part of the inflamed peritoneum, and not at others. Large intraperitoneal abscesses generally have many loculaments; and sometimes these, even when highly distended, do not communicate with one another. This arises from the suppuration having only been at certain parts, while at others there was exudation of lymph, which merely ripened into adhesions. In this way, an abscess may be iliac in situation, or hypogastric, while it is as truly perimetric or parametric in essence, as if it were in Douglas's space. I have never seen any such iliac abscess, owing, with any probability, its origin to disease of the genital organs, in which I could not trace connection by hardness and fixation between the genital organs and the abscess. But I do not regard even this as being necessarily possible in every case that is uterine in origin.

One of the most remarkable examples which I have seen, of abscess, which I regarded as perimetric or intraperitoneal, occurring at a distance from the uterus, was observed in one of Professor Laycock's wards. I was called to it by his resident physician, Dr. Brunton, after having previously seen it, and diagnosed it as a case of adhesive perimetritis or local peritonitis, post partum. While this woman was, on the whole, gradually im-

proving under treatment, a new lump of the size of an orange appeared on the left side between the navel and the pubes. It was globular, very tender, and could be distinctly moved, the abdominal wall moving with it. Between it and the pubes there was hardness, but not absolute dulness. This tumour soon and quickly disappeared, but no pus was ever observed in the stools, the abscess having no doubt burst at a spot in the alimentary canal far removed from the anus.

The only point very remarkable in this case was the situation of the abscess at a remote part of the perimetritic area, the rest of the area producing only adhesions. In cases of perimetritis, the occurrence of abscess at different parts, and succeeding one another, is not rare. These successive inflammations and suppurations of adjacent parts give rise to renewal of inflammatory symptoms, as well as the production of new signs of disease locally, and form what some French authors call *redoublements inflammatoires.* Thus, one abscess may be formed after another, and at different and distant parts of the perimetritic area. When they form simultaneously, they generally communicate freely with one another, but not always. A large perimetric or intraperitoneal abscess does not present internally a globular cavity, but a

cavity of indescribable shape, having numerous loculaments and pouches in all directions.

The condition of parts, when there can as yet be scarcely said to be an abscess, but rather a series of little abscesses, the coalition and increase of which may lead to a great purulent collection, has been so well described by Aran,* whose account so vividly recalls what I have myself seen, that I quote the passage in a free translation. "If we set about," says Aran, "with care the dissection of the tumour, we find that it is constituted, proceeding from without inwards, by false membranes, still soft and pretty easily torn, forming a layer more or less thick, sometimes quite continuous, at other times hollowed out here and there by a certain number of locules, full of a liquid sometimes yellow and transparent, sometimes seropurulent, or perhaps true pus somewhat liquid and very serous. I have seen some of these cavities hollowed out in the false membranes, which contained a teaspoonful, sometimes even a tablespoonful, of purulent serosity or of pus. Underneath the false membrane we observe in the peritoneum of the subjacent parts the evident marks of a recent inflammation, very fine and very close injection, thickening, and a serous infiltration of the subperitoneal cellular

* *Leçons Cliniques sur les Maladies de l'Uterus*, p. 677.

tissue, which allows the membrane to be easily peeled off. In the centre of the tumour we find perhaps one of the appendages of the uterus, perhaps the two appendages of one side—ovary and tube—exhibiting some of the alterations which we have described *à propos* of acute inflammation of the ovary or of the tube, and the inflammation may extend as far as the broad ligament, the peritoneum of which may be very brightly injected, and the cellular tissue infiltrated with serosity, sometimes sanguinolent, more rarely purulent."

CHAPTER VIII.

(CONTINUED.)

ON THE SEAT AND NATURE OF THE DISEASES.

PARAMETRIC PHLEGMON.

THIS affection has of late years been regarded by many as a new discovery, and as forming the key, as it were, to this department of the pathology of women. Nonat in Paris, and Sir James Y. Simpson in this country, have been the principal propagators and defenders of the views alluded to. The former names the disease periuterine phlegmon; the latter, adopting a term introduced by Gendrin, describes it as cellulitis with effusion of serum or of coagulable lymph. That these views are in the main erroneous, I have no doubt; but, at the same time, I have no difficulty in admitting that cellulitis does occur; indeed, that it is frequent; though I can make no statement as to its frequency when compared, in this respect, with the other forms of perimetritis and parametritis. And, before I go further, I must remind the reader that I am now speaking of phlegmon, or inflammatory œdema of the cellular tissue, without any suppuration.

The silence, partial or complete, of the authors alluded to regarding other forms of pelvic inflammation, convinces me that they have confused, in very many cases, cellulitis with them ; and a careful criticism of their works leaves little doubt of their involving in their descriptions some great errors.

This is not the place to enter into anatomical details, and I shall not attempt to describe all the cellular tissue around the uterus and in the female pelvis. But I must cite a remark of Bernutz, in order to notice my dissent from it. This author, criticising M. Nonat, speaks as follows on the question whether or not parametric phlegmon may be located in the cellular tissue between the uterus and peritoneum. "The disposition," says he,* "of the cellular tissue on the anterior and posterior surfaces of the uterus, as well as that on its sides, is proof against this. The slightest dissection shows that the cellular tissue subjacent to the peritoneum is so thin and scanty, that it is impossible to separate the serous from the uterine tissue; and that, consequently, it cannot be the seat of swellings which, according to M. Nonat's observations, attain in the space of a few hours to the size of a hen's

* *Clinical Memoirs on the Diseases of Women.* By MM. Bernutz and Goupil. Sydenham Translation, by Meadows, vol. ii. p. 3.

egg. The only other possible position for these so-called ante- and retro-uterine phlegmons is the small band of cellular tissue situate at the junction of the neck with the body of the uterus; and this we can hardly credit, unless it be proved by an undoubted post-mortem examination, which has never yet been adduced. In the absence, then, of direct proof, I may be allowed to doubt the existence of this affection as decribed by M. Nonat." Now, I am not concerned to defend the peculiarities of Nonat's alleged views. I do not think that, in this country, any one has supposed that a cellulitic tumour of considerable dimensions was liable to be formed between the peritoneum of the uterine walls and their proper tissue; nor am I aware that Nonat himself ever said this or implied it. Leaving this point aside, I assert that there is, everywhere in the pelvis, abundant cellular tissue to admit of being distended considerably by lymphy or by purulent collections, and that this cellular tissue is occasionally the seat of inflammation and abscess, arising from disease of the uterus and of its appendages.

Bernutz* seems to exclude the cellular tissue of the broad ligaments, and of the pelvis generally,

* *Clinical Memoirs on the Diseases of Women.* By MM. Bernutz and Goupil. Sydenham Translation, by Meadows, vol. ii. p. 6.

from that designated by him periuterine, and to include merely that subjacent to the peritoneum of the uterus. But we cannot believe that this is other than a polemical extravagance. Were it not so, we would have to withdraw from Bernutz much of the credit we have cordially given him. For, whatever may be the specialty of Nonat's views, no one else, here or elsewhere, so far as I know, holds the view which Bernutz makes himself appear to attack. Describing pelvic cellulitis and pelvic abscess, or perimetric and parametric inflammation and abscess, no one has written as Bernutz implies, and especially M. Nonat has not done so. No one has described cellulitic tumour and abscess between the uterine wall and peritoneum as parametric disease. If this is the doctrine that M. Bernutz claims to have dethroned, he is certainly a pathological Quixote, for he has been fighting with solemnity against something which is not real, which no one defends.

Inflammation and abscess of the cellular tissue, in every region of the body, does not confine itself to the immediate proximity of the organ primarily diseased. No more does it do so in the pelvis; and inflammation of the cellular tissue of the broad ligaments, and even of much more remote parts, may be, in true pathological import, as certainly uterine—that

is, perimetric or parametric—as if it were in the situation which Bernutz has imagined, but which no one has described.

That Bernutz is quite singular in the limitation, which, in this part of his writings, he assigns to the term periuterine, is proved by the writings of his contemporaries. Introducing the same subject as Bernutz was describing in the place referred to, M. Aran says,*—"Under the name of periuterine inflammation, I propose to describe an affection which has by turns received the denomination of *inflammation of the lower belly, inflammation of the appendages of the uterus and of the broad ligament, inflammation of the pelvic cellular tissue* (*pelvic cellulitis, peri- or retro-uterine phlegmon*), *and pelvi-peritonitis.*"

M. Nonat may now speak for himself. Describing the various sites of parametric phlegmon, he proceeds as follows :—

"1. The phlegmon developes itself on one of the sides of the organ, in such close contact with it, that it seems to make a part of it: this is the lateral phlegmon, which we shall name right or left according as it occupies the one or the other of these sides.

"2. The phlegmon shows itself in the fold of the broad ligaments, in the cellular tissue which unites

* *Leçons Cliniques*, p. 654.

the ovary and its ligament, the tube and the round ligament, at a variable but always rather short distance from the uterus : this is the phlegmon of the broad ligaments properly so called.

"3. The phlegmon seated in the cellular tissue which separates the uterus from the rectum, or in the recto-uterine septum, is called the retro-uterine phlegmon.

"4. The phlegmon, which occupies the utero-vesical septum, is the ante-uterine phlegmon.

"We might admit a fifth division, which we might name peri-rectal phlegmon, for the phlegmasiæ developed in the cellular tissue which immediately surrounds the rectum ; but these cases are rather rare ; we have not been favoured with the observation but of a single one up to this time, and we think that they might be, without inconvenience, considered as a variety of retro-uterine phlegmon, from which this cannot be distinguished during life.

"Of the four first varieties of the phlegmon, the least frequent is, beyond contradiction, the ante-uterine phlegmon, or the utero-vesical. We observe much more frequently the phlegmon of the broad ligaments, the lateral phlegmons and the retro-uterine phlegmon. The presence of the rectum and of the sigmoid flexure on the left, the accumulation of fæcal

matters, the impediment which thence results for the pelvic circulation, explain why phlegmons of the left side are more common than those of the right side.

"The phlegmon does not always remain confined to its primitive seat, nor confined within the narrow limits which we have just been ascribing to it. We know, in fact, how great a tendency inflammation of the cellular tissue has to propagate itself and to extend, especially in the acute form. Thus we have seen sometimes the inflammatory engorgement occupy almost the whole of the cellular tissue which surrounds the uterus, and form a sort of girdle around this organ. Most frequently the inflammation begins in one of the broad ligaments, and from thence it proceeds, going either inwards towards the uterus or outwards towards the iliac fossæ."*

In another place† he completes this aspect of the disease, saying—"At other times, passing the upper strait of the pelvis, it invades the iliac fossæ and the anterior part of the bodies of the lumbar vertebræ; lastly, we have seen it extend into the anterior wall of the abdomen, and rise even to above the umbilicus."

My own views as to the extension of cellular in-

* *Traité Pratique des Mal. de l'Uterus*, p. 243.

† *Ibid.* p. 249.

flammation from the pelvis, I shall give at greater length, when I describe abscess of the cellular tissue, or parametric abscess, because the occurrence of abscess attests, in some recondite parts, the existence of the inflammation, whose presence might, without its evidence, be doubted.

Let us turn to the chapters of Dr. West for a good exposition of views prevalent in this country, and whose accuracy, within certain limits, I willingly attest. Speaking of inflammations which may pass away and leave no trace, or may issue in the production of permanent swelling and induration, due either to local peritonitis or to thickening of the cellular tissue, West says—"The inflammation is in many instances not limited to its original seat, but extends, and that not always by direct continuity of tissue, to the cellular tissue lining the pelvis, or attacks that which is interposed between the abdominal muscles and the peritoneum, constituting the external peritonitis of some writers. In these cases, too, the mischief may recede from the parts which it originally attacked, and the gravity of the secondary ailment may entirely obscure the perhaps transitory affection in which it originated—a supposition that will probably apply to not a few of the instances in which affection of the pelvic cellular tissue has

seemed to be idiopathic."* In another place, Dr. West points out the frequent seat of the inflammation in the broad ligaments, and elsewhere in the pelvis. Before leaving Dr. West, I may interpolate the remark, that he supposes the inflammation may extend otherwise than by direct continuity, a doctrine to which I am not prepared to give my assent. Although I have not good grounds for asserting an opposite view, I am at least disposed to hold it. The question is a difficult one, and as its decision is not very much demanded with a view to advancing our present subject, I shall thus excuse myself from entering fully on it. That metastatic inflammation occurs, I do not doubt; but when this is liable to happen, there is probably always grave blood-disease, or the nervous system is particularly involved in functional disorder. Now, in perimetritis and parametritis, there is, so far as we know, no primary or grave blood-disease, nor is there any special nervous disorder, and I am therefore not willing to admit the occurrence of metastatic inflammation. West's theory seems to me to invoke the doctrine of metastasis when it is not required.

I shall now give a valuable quotation from Aran, on account of its statement of his views regarding the

* *Lectures on Diseases of Women.* 3d edit. p. 420.

assertions of Bernutz, which we have just discussed, and because (at least in one of his dissections) he gives the post-mortem appearances of parametric phlegmon. Speaking of the utter opposition raised by MM. Bernutz and Goupil to the views of Nonat, Aran proceeds,*—"How then, say they, could the inflammation be developed around the uterus? Is not the peritoneum closely united to the uterus? and how could a layer of cellular tissue so scanty become the seat of a phlegmon? Unfortunately for the opinion which they defend, MM. Bernutz and Goupil have forgotten that, if there exists very little cellular tissue on the posterior surface of the uterus, if even the adhesion of the peritoneum becomes such, in the neighbourhood of the median line, that it can be detached from the uterine tissue with great difficulty, if the same is true of the free portion of the anterior surface of the uterus, if even, as I have been able to convince myself by an attentive dissection, the cellular tissue which lies along the border of this organ superiorly is much too firm, permeated as it is by fibrous lamellæ which contain vessels, to be able to become the seat of a veritable phlegmon; on the other hand, there are other points where the cellular tissue yields itself, on the contrary, to the inflamma-

* *Leçons Cliniques*, p. 656.

tion with the greatest facility. Laterally, in the thickness of the broad ligaments; behind, between the vagina and the peritoneum which covers the recto-uterine *cul-de-sac;* and, generally, in the space comprised between the point where the vaginal mucous membrane is reflected to cover the cervix, and that where the peritoneum is in its turn reflected to be conveyed to the uterus;—in this space, corresponding to the insertion of the vagina on the uterus, there exists cellular tissue, which communicates freely on the one side with the cellular tissue which surrounds the vagina, on the other side with the pelvic cellular tissue, as with the cellular tissue of the neighbouring parts; of the iliac fossa, for example. The quantity of this cellular tissue, and its laxity, increase in proportion as we approximate to the bas-fond of the pelvis, so that it is precisely around the neck of the uterus, posteriorly and laterally, that this tissue offers the conditions most favourable for inflammation.

"All that we have said is not merely a theoretical view; observation has come to furnish me with the most peremptory demonstration of it. In the broad ligament, for example, I have seen the two layers of peritoneum separated from one another by a thick layer of pus; and on the lateral parts of the uterus I have been able, on three different occasions, to

recognise during life partial engorgements of the cellular tissue, and to assure myself after death of the real composition of those engorgements. In two of these last cases, they were poor women, who were placed in conditions in which we are scarcely accustomed to seek for these engorgements of the cellular tissue, and in which it has been sometimes affirmed, as West has done, in these latter times, that they do not exist. Both the two were recently confined, and both succumbed to puerperal fever, which they had contracted in the *service d'accouchements*. In the two cases I found on one of the sides of the neck of the womb a mass of induration, painful on pressure, prolonged along the lateral wall of the vagina to the extent of about three or four centimetres. After death, this mass of induration had lost much of its consistence, but, searching for it with care, I could discover it, and satisfy myself that it was constituted in one case of cellular tissue impregnated with blood, almost combined with this liquid, and in the other of cellular tissue infiltrated with plastic lymph and with pus. In a third case, a woman of eighty years of age, whose genital organs I had examined during life, almost by accident, the analogous mass which I had discovered was composed of cellular tissue indurated, in which my learned colleague, M. Ch. Robin, recognised the

presence of numerous fibro-plastic cells. Lastly, quite recently, in a woman who succumbed after delivery to gangrene of the internal surface of the uterus, and in whom this organ had not yet re-descended into the pelvis, the pelvic cellular tissue, the cellular tissue which forms part of the vesico- and recto-vaginal septa, all the cellular tissue comprised between the insertion of the vagina on the uterus and the peritoneum, was the seat of an enormous thickening, due to the presence of a great quantity of plastic lymph and of serosity, deposited in the interstices of this tissue."

A remarkably clear account of a post-mortem examination of a case, regarded as one of parametritis, is given by Dr. West.* "The appearances," says he, "found after death explained this thickening, and accounted for the non-mobility of the womb, for the folds of the broad ligament, from the upper part of the vagina to the lower surface of the ligamentum ovarii, inclosed a mass of dense cellular tissue of almost cartilaginous hardness, crying under the knife; dense white bands intersecting each other in all directions, and having a firm yellow fat between them. This mass was closely adherent along the whole left side of the uterus, though the

* *Lectures on Diseases of Women*, 3d edit. p. 423.

uterine tissue was in no respect implicated in it. The left Fallopian tube was tied at two or three points by long adhesions to the ovary and its ligament; and the ala vespertilionis on that side was thickened and uneven, as if from old deposits of lymph."

Virchow has, in a cursory way, made a contribution* to the pathology of this subject. The affection we are now discussing he first named parametritis; and he has given the finer characters of the early changes in the connective tissue, as well as other microscopical details.

Cases which I have regarded as certainly presenting inflammation of cellular tissue, without suppuration, have never afforded to me good signs of the presence of considerable tumour. Frequently the careless examiner gets the false impression that there is a great tumour, deceived by circumstances which I have mentioned in the course of discussing the physical signs of this disease. What it produces is a hardening and thickening, such as are familiar to the surgeon, in the subcutaneous cellular tissue, under a variety of circumstances.

I have seen the subcutaneous cellular tissue

* *Archiv für pathol. Anat. und Physiol.*' Band xxiii. 1862.

inflamed, indurated, and thickened, without suppuration following, in a case where hypodermic injection was the cause. These indurated and thickened parts formed distinct rounded mobile masses, as large as a boy's marble. They lasted for more than a year, and then gradually disappeared entirely. Now, though the analogy is far-fetched, yet it leads me to believe that larger and occasionally even mobile masses of inflamed cellular tissue may possibly be produced in the pelvis, as Nonat has described them. I have more than once thought I had an example of this; but I have never been quite satisfied that the observation was sufficiently exact. It is admitted, by Nonat and by all, that immobility is the almost invariable character of this disease; and then, the making out of tumour, and of size of tumour, are both matters of difficulty, even in the most experienced hands.

Nonat* says that "phlegmonous periuterine tumours present great varieties of form and volume. Some are rounded, and more or less spherical; others are oblong and flattened. There are some which scarcely reach the size of an almond; others acquire and even surpass the bulk of a nut, of a hen's egg, or of an orange. We have met with cases where

* *Maladies de l'Uterus*, p. 268.

they were, so to speak, diffused in the pelvic cellular tissue, and which rose even to the level of the umbilicus."

Bernutz ridicules Nonat on account of his describing such masses as ever reaching the size of a hen's egg. "On this point," says Aran,* "I am quite compelled to be of the opinion of MM. Bernutz and Goupil, and I respond—Never has an inflammatory tumour of a volume somewhat considerable been formed in the pelvis at the expense of the periuterine cellular tissue only. Tumours of this kind result, on the contrary, from adhesions of the appendages of the uterus to one another, of adhesions of these appendages to the uterus, and to the organs enclosed in the cavity of the pelvis. The apparent volume of these tumours is in exact accordance with the extent of these adhesions."

Simpson's account† of such tumours becoming as large as the uterus at the fourth month, I regard as a mistake, the explanation of which I have already given. Inflammatory tumours, appearing to be of this bulk, are either such as Aran describes in the passage just quoted, or subperitoneal thickenings of cellular tissue, which Nonat describes as

* *Leçons Cliniques*, etc., p. 660.

† *Medical Times and Gazette*, vol. xix. 1859, p. 27.

reaching sometimes as high a level as that of the navel.

"Never," says M. Courty,* "has there been formed in the pelvis an inflammatory tumour at all considerable exclusively at the expense of the peri-uterine cellular tissue. Autopsies have demonstrated that it results always from an inflammation, more or less extensive, of the peritoneum itself. This inflammation may be simply sero-adhesive, or become sero-purulent. Whatever may be the termination of it, it is complicated by numerous adhesions, which unite with one another the different surfaces of the peritoneal investment of the pelvic organs—for example, the appendages with one another, or with the uterus, or with the neighbouring organs—the rectum, bladder, etc.—all contained in the small pelvis. The more adhesions there are, the greater appears the bulk of the tumour."

Some have stated various periods, as of one or of two weeks, as the general interval between the appearance of a parametric tumour and its suppuration, if that end is to come. I cannot pretend to confirm or dispute the assertions. I do not believe them. I will only say that my experience has led me to expect the commencement of suppuration within a

* *Traité Pratique des Maladies de l'Utérus*, etc., p. 528.

period of a few days, if suppuration is to take place at all.

Grisolle, whose views deserve the greatest consideration, makes a statement regarding the time of formation of pus, which I shall quote; but I cannot do so without saying that the grounds, upon which he assumes that pus is first formed, and which he gives at length, are in my opinion quite incompetent to decide the question which he thinks he contributes to settle by their aid :—"The time," says he, "necessary for the formation of pus has varied much in different individuals. We may, I think, admit as a general result that, in the non-gangrenous abscesses of the iliac fossæ, pus forms more slowly than in tumours of the same nature, which are developed in other parts of the body. In these, in fact, when the inflammation is acute, pus commences to form from the fifth to the eighth day. In the iliac fossa, on the contrary, the same phenomenon scarcely appears, on an average, but from the twentieth to the twenty-sixth day. In an exceptional case, suppuration took place and pus escaped outwards on the seventh day; but with all the other patients the first signs of the presence of pus appeared on the tenth, twelfth, nineteenth, twenty-fourth, thirtieth, thirty-eighth, forty-second, and sixtieth days, dating from

the first accidents." Then Grisolle tries to account for this slowness of the formation of pus in the iliac fossæ, which, as I have said, I hold he does not prove. His explanations are to my mind so unsatisfactory that I do not quote them. But I now subjoin the statement of his grounds for judging when pus is first formed :—"The symptoms," says he, "which indicate the formation of pus are local or general; these last have great value; they may often, by themselves, establish a certain diagnosis, for it is not rare to see phlegmonous abscesses, deeply hidden in the iliac fossæ, reveal themselves by no external phenomenon. The symptoms which mark the presence of pus vary according to the more or less acute march of the affection. If it has a rapid progress, we observe an instantaneous exasperation in the general symptoms, and especially in the local phenomena; the lancinating pains of which the part was the seat are redoubled, fever lights up, the tumour appears to become more voluminous, and the phenomena of compression of some organs, which I have already enumerated, either augment or appear for the first time. It is thus that I have seen, in a half of the cases, constipation become more obstinate at the time when inflammation becomes *suppurative*, to make use of the language of Hunter, and, in six

patients, pain, retraction of the limb, difficulty of movement, and lastly œdema of the ankles, came on for the first time, or increased at the time of the formation of pus in the tumour. When the disease, on the contrary, makes slow progress; when the abscess has come on almost without pain, and without exciting sympathy in any part; we do not then observe this period of exacerbation which I have just described. But, with whatever rapidity the pus is formed, when it is collected in an abscess, it gives rise to various accidents which it is important to know. In about a good third of the patients, I have noted irregular shiverings, fever with evening exacerbations, general sweatings, sometimes considerable, taking place chiefly in the night during sleep. These different morbid phenomena do not indicate, as some persons suppose, that suppuration is about to take place, but they are the certain sign that pus is already formed in the tumour, for these troubles ordinarily coincide with local phenomena which put the diagnosis beyond a doubt. Sometimes, in fact, we feel fluctuation in a circumscribed part at first, and becoming soon felt over all the surface of the tumour. But, for the existence of this phenomenon, it is not sufficient that much pus should be amassed, it is also necessary that the liquid do not lie deep;

and Bourienne cites two cases of iliac abscess, contai ing the one fifteen ounces of pus, the other a pound a a half of the same fluid, in which attentive and o repeated examination could not discover fluctuatic But in these obscure cases, if the surface of t tumour is palpated with care, sometimes a sort *fremissement* is felt, which it is impossible to describ sometimes it is a softness, or rather a sort of *empâ ment*, at other times; lastly, there is more or le superficial œdema. All these phenomena ought make the practitioner aware that pus exists more less deeply."*

I can give no good estimate of how frequent su puration is. Simpson says that this event happe to about a half of the cases. I believe it is much mo frequent. I can also express, generally, an opinion accordance with Grisolle's, Bennet's, and Gallard's that, in the puerperal state, "the slightest inflamm tions tend to become the point of departure of extensi suppurations, which often give rise to purulent infe tion. Further, the inflammation arising in the circumstances is not confined to the periuterine tissu it invades the broad ligaments, and quickly gains t

* *Archives Générales*, etc. p. 140.

† *De l'Inflammation du Tissu Cellulaire qui environne Matrice*, etc. 185, p. 8.

iliac fossa. In these cases suppuration is the rule. Apart from the puerperal state, on the other hand, it is the exception, as M. Valleix has demonstrated, first in a memoir published in 1853 in the *Union Médicale;* then in the third edition of the *Guide du Médecin Praticien* (vol. iv.); and M. Gosselin, in his lectures delivered at the Cochin Hospital, and published by me, a few days ago in the *Union Medicale.*"

Reminding my readers of a source of errors in regard to the suppuration of pelvic inflammatory tumours, which I have pointed out in the chapter on "Common Errors"; and thereby diminishing the value of opinions given, in regard to the frequency of suppuration, and time of suppuration, of such tumours, without recognising this danger of falling into error, I shall conclude with the opinions of some esteemed authors.

"Resolution," says Grisolle, "is the most fortunate termination, but also the rarest, of iliac abscess. I have only seen it take place twice in the twelve observations that I have gathered; and in seventy-three patients, which forms the total of the facts that I analyse, this termination has only been seen completed nine times. In nine other cases it began," but the cases were not seen to the end. "This kind of

termination," adds Grisolle, "takes place very slowly in iliac phlegmons; in two subjects it was effected in from fifteen to twenty days; but in all the others it was not complete but at the end of from one to three months."*

Speaking chiefly of puerperal cases, Jacquemier says†—"Resolution is rare, and appears to be still more uncommon in lying-in women; the seventeen cases noted by Grisolle only furnish one example of it. It can scarcely be expected except when the engorgement is formed with much slowness, and when it provokes little reaction; and it remains during a long time a hard nucleus, susceptible at a later period of inflammation and suppuration.

"Suppuration is the habitual termination of these phlegmonous tumours; it is always accompanied by exacerbation of symptoms. . . ."

"This termination, by suppuration," says Dr. West,‡ "appears to be very frequent in the case of those inflammations which succeed to delivery or abortion. I find it noted as having happened in 23 out of 43 instances in which the inflammation succeeded to delivery or abortion; and the large col-

* *Archives Générales*, etc. p. 137.

† *Traité d'Obstétrique*, tome ii. p. 698.

‡ *Diseases of Women.* Third edition, p. 421.

lection of Dr. M'Clintock leads to the same conclusion, since he met with it in 37 cases out of 70. My own impression, too, formed chiefly on bygone hospital experience, is that the same rule holds good even in those cases where the disease occurs independently of puerperal causes. My table shows 9 instances out of 16 as having terminated by suppuration, and in this respect agrees with the statement of M. Grisolle, who found it take place in 38 cases out of 51. General experience, however, it must be confessed, does not bear out these statements. M. Aran demurs to their correctness, and M. Gallard, in a very carefully-written essay, regards the occurrence out of the puerperal state as so rare as to have been met with only in 4 out of 53 cases. I have no longer the opportunities of large hospital observation by which to control and correct my own impressions; but it seems to me probable that the cases which came under my notice in a small ward, for admission into which there were many applicants, at St. Bartholomew's Hospital, were of a severer kind than those which formed the basis of M. Gallard's thesis; and further, that many of the slighter forms of what M. Bernutz terms pelvi-peritonitis may have been taken into account by observers recently, though they would not have entered into their calculations some few years ago."

Speaking of suppuration, Courty remarks*—"This termination is sufficiently rare. It would be, according to West, 51 times in 100, but according to Aran, and according to MM. Gallard and Gosselin, only from 7 to 10 in 100. M. Nonat also regards it as rare."

My own opinion is, that suppuration of a parametric phlegmon is even more frequent than the statements of any of the authors quoted would lead the inexperienced reader to suppose.

* *Traité Pratique des Maladies de l'Uterus*, p. 549.

CHAPTER VIII.

(CONTINUED.)

ON THE SEAT AND NATURE OF THE DISEASES.

PARAMETRIC ABSCESS.

Of all the inflammations in the pelvis which we have been discussing, this is the best known. This affection has been more or less carefully described by ancient and modern authors. Until recently it was the only one of the pelvic inflammations that received much attention. It is the affection to which, therefore, the eye should be directed, as the one intended to be described by all authors writing on pelvic abscess down to about the time of Doherty. But if there is any truth in the descriptions of perimetritis and and parametritis given in this book, then all the authors just referred to have greatly erred, supposing they had only abscess in the cellular tissue near the uterus to study and describe, when they really had a considerable variety of different inflammatory diseases in these parts. No doubt it was known that peritoneal adhesions were sometimes produced in the

neighbourhood of the abscess, but these were supposed to be merely the result of peritonitis accompanying the formation of a purulent collection beneath the serous membrane. The common intraperitoneal or perimetric abscesses were ignored up till about the time of Marchal; and even still they are regarded as quite of secondary importance in every respect by well-known authors. To such an extent does this exclusive idea of the cellular or parametric site of the abscess go, that recent well-known eminent authors never mention intraperitoneal collections.

I have already said that I regard perimetric or intraperitoneal purulent collections as forming the majority of the grave abscesses in this situation, and I am too diffident to be inclined to proceed to make further particular statements on the same subject. Abscesses in the cellular tissue are no doubt common; they no doubt are a frequent form of puerperal abscess; and as it is this kind of abscess that has, till recent times, most attracted attention, we may find, in this circumstance, some explanation of the parametric abscess taking exclusive possession of the minds of so many pathologists. For, in deaths after delivery, with parametric abscess, it is not rare to find diffuse suppuration of the cellular tissue and

regular abscess, not only in the pelvis but spreading thence in every direction.

Although diffuse suppurations in this region might be justly included among parametric abscesses, I do not propose further to speak of them, as they are probably always connected with symptoms of puerperal fever or of pyæmia, and either end fatally or end in the suppurations losing their diffuse character, and coming to have the conditions of ordinary abscess. I cannot regard the disease, which has been the subject of copious description by authors from Puzos downwards, as being of the nature of the acute purulent œdema of Pirogoff, as an esteemed author supposes.*

Parametric abscess begins most frequently on either side of the uterus, a situation erroneously described as in the right or left broad ligament. This old custom of describing these abscesses as being within the folds of, or in, the broad ligaments, I have already alluded to. At best it is an assumption. It is an improbable one, because post-mortem examinations have rarely shown the broad ligaments distended with pus.

Parametric abscesses, depending on disease of the internal genital organs, may spread or extend in every direction. This direction has been naturally supposed to be much influenced by the fasciæ of the pelvis, a

* West on *Diseases of Women*, 3d edition, p. 424.

structure whose anatomy has been the subject of careful investigation by Priestley,* Jarjavay,† and others. But, while such investigations are very valuable, and while much is to be expected from them in future, the attempts by some authors to make such anatomical research available in explanation of the progress of these abscesses, have hitherto resulted either in mere pedantry, or in nothing more substantial.

Another ingenious plan of discovering the direction that matter may be expected to take has been pursued by König,‡ and I am indebted to Graily Hewitt§ for all I know of it. "König has made some experiments and observations on the course pursued by the effusions resulting from inflammation in the cellular tissue about the uterus, interesting in reference to the diagnosis of pelvic abscess. He found that injections of air or water thrown into the cellular tissue of the broad ligament near the Fallopian tubes, travelled primarily along the course of the psoas and iliacus muscles, then sinking into the pelvis proper; that exudations starting from the part of the cellular tissue situated antero-laterally with reference to the uterus

* *Monthly Journal of Medicine*, vol. xviii. 1854.

† *Traité d'Anat. Chirurgicale.* Paris, 1852.

‡ *Archiv f. Heilk.*, 1862, No. 6, S. 481.

§ *Diseases of Women.* First edition, p. 228.

and its cervix, passed out laterally into the cellular tissue of the pelvis, and by the side of the bladder, and then with the round ligament, towards Poupart's ligament, thence extending to the iliac fossa externally and backwards; if the starting-point be the posterior part of the base of the lateral ligament, the postero-lateral parts of the pelvis are first filled, the effusion then passing towards the psoas and iliacus muscles." I give this quotation, and think it well worthy of consideration, but I am not prepared to say what value I attach to the method of investigation. I think the choice of air or water for the experiments was probably badly made. Something liker to pus, as some sort of size, or coloured material for injection, would, it appears to me, have given more reliable results.

The most frequent extension of these abscesses is either upwards or into the iliac fossa on either side. But they may go much further. They may extend along the rectum to the perineum. They may extend to the kidney. They may, in assuming these directions, attack only cellular tissue, or, in addition, may lead to destruction of muscles, as of the psoas and iliacus. I have dissected such abscesses in the puerperal state, and in connection with non-puerperal disease, extending from the kidney to the uterus.

To elucidate this doctrine of the extension of ab-

scess, which is generally held, and among others by Dupuytren, Velpeau, Bernutz, and Aran, I may call attention to a case described by Dr. West, which has been the subject of unfair criticism. "Sixteen weeks," says West, "after her second labour, a poor woman, aged twenty-five, died of exhaustion consequent on inflammation and suppuration in the cellular tissue adjacent to the uterus; on examination of the body after death, two abscesses were found. One, the larger in size, situated in the cellular tissue in front of the right sacro-iliac synchondrosis, and extending for some distance behind the psoas muscle; the other to the left side of, and somewhat behind, the rectum, containing a small quantity of discoloured pus, lined by a slightly rough, ash-grey membrane, bounded by walls of at least half-an-inch in thickness, reaching downwards to about two inches from the anus, upwards to a little below where the sigmoid flexure passes over into the rectum, where the abscesses communicated with the bowel by an opening about a third of an inch in its longest direction, which was transverse. There was no general peritonitis, nor any fluid in the peritoneum, but bands of old adhesions about half-an-inch long connected the uterus and the rectum, and retained the womb completely in the posterior part of the pelvis. There was no trace,

however, of any intraperitoneal cyst or sac containing pus, nor of anything more than the old adhesions just described."*

On this case, whose record contains nothing inconsistent with ordinarily-held doctrines or with his own, Aran makes the following remarks, in which there is observed an attempt to limit the term periuterine† to locality close to the uterus—an attempt which is rendered utterly vain, as the most superficial observer will see, by Aran's admission of the doctrine of extension. If this doctrine is admitted, and if it is remembered that West's patient did not die till sixteen weeks after delivery, when the original disease was certainly profoundly modified by time and the progress of the case, then his account presents nothing very remarkable, and certainly no evidence that he confounded with pelvic abscess, parametric in its origin, either inflammation of the sacro-iliac symphysis, or an iliac abscess, unconnected with uterine disease. The assumption by Aran that West confounds disease of the sacro-iliac symphysis with parametric abscess, and the like assumption of Bernutz

* *Lectures on the Diseases of Women.* 1st edit., vol. ii. p. 8.

† We have already (p. 109) shown Bernutz attempting to limit the term periuterine to positions between the uterine peritoneum and the proper uterine tissue which it invests.

that he confounds iliac abscess, independent of uterine origin, with the same disease, are "purely gratuitous."

"Periuterine inflammation," says Aran,* "of course, does not imply the inflammation of all the organs enclosed in the small pelvis. It is possible—it is even unfortunately too frequent—to find the inflammation extended to a great distance from the uterus; but that which appertains peculiarly to periuterine inflammation is, the inflammation at once of the periuterine cellular tissue, and of the peritoneal folds in the thickness of which the uterine organ is comprised, as well as its appendages, besides the alterations of these appendages in the most ordinary cases, where these appendages have been the point of departure of the inflammation; to state it otherwise, it is expedient not to confound with periuterine inflammation, as is often done precisely because they may be observed along with this inflammation, either the phlegmon of the cellular tissue of the iliac fossa, or inflammation of the sacro-iliac symphysis, still less the phlegmon of the subperitoneal cellular tissue. The iliac phlegmon may, in certain circumstances, be the result of the propagation of the inflammation of the cellular tissue situated around the uterus, but this is a very exceptional fact. As for the inflamma-

* *Leçons Cliniques sur les Maladies de l'Uterus*, p. 674.

tion of the sacro-iliac symphysis, although, rigorously speaking, it may coincide with a periuterine inflammation, it is a malady which has special characters, and which differs completely from this inflammation. . . . . This confusion has been made by men of great experience; I find a new example of it in an observation reported by Mr. West in his recent work on diseases of the ovaries."

Criticising the same and other cases of Dr. West, as well as his remarks generally, Bernutz says that "they prove that Dr. West confounds, very unreasonably, periuterine phlegmons with those of the iliac fossa."*

No author, so far as I know, has denied that parametric abscess may extend into the iliac fossa. Some, indeed, point out cursorily that it may also extend as far as the kidney—as Grisolle, Jacquemier, and Nonat.† Many also correctly point out its extension along the anterior wall of the abdomen, upwards from the pubes, forming the external peritonitis of some.

A periosteal abscess is still a periosteal abscess,

* *Diseases of Women*, Sydenham Translation, vol. ii. p. 36.

† Battersby—*Dublin Quarterly Journal*, vol. iii., 1847, p. 516—mentions a case of spreading of an abscess in an inverse direction—that is, from the kidney to the pelvis.

although in its progress it may also be subcutaneous. Mere site of purulent deposit is not the criterion of the origin or nature of an abscess.

Iliac abscesses were, as we have already pointed out (see page 15), well known to Dupuytren to trace their origin to disease in the uterine appendages.

There is a form of abscess, not rare after delivery, which should not be confounded with abscess occupying the iliac fossa, or iliac abscess : I mean abscess in the region of the inguinal canal. Careful examination, internally and externally, the details of which it is unnecessary to give, shows that this situation of abscess is not rare. It may occupy the subperitoneal cellular tissue, or the more superficial portions of the same structure. Such suppurations may be accounted for by Dupuytren's statement of the progress of inflammation after delivery along the round ligaments.

I have dissected an intraperitoneal abscess accompanying uterine cancer occupying this inguinal situation exactly. During life such an abscess cannot always be distinguished, at present at least, from one in the cellular tissue, in a situation close to that of the peritonitis transversalis of some authors. But the cellular site of this form of abscess is sometimes indicated by its superficiality.

Parametric abscesses may not only reach parts distant from the original disease in the manner already described—namely, by extension of suppuration; they also occur in regions apparently separate and remote from the original affection, and unconnected with it by continuity of suppuration. Such abscesses are said by Dr. West to be extensions of the inflammatory disease, not by direct continuity of tissue. This statement I cannot pretend to contradict, but I am, as already said, far from assenting to it. Those abscesses, which are, in an etiological sense, parametric, but yet occur in parts separate and remote from the original disease, are, in my opinion, probably the result of inflammation spreading by direct continuity of tissue. When there is a purulent tract connecting the remote part with the original disease, then the continuity is evident, and the remote part of the abscess cannot be said to be at the same time separate. But I am satisfied, from clinical observations, that while the inflammation may extend, and in all cases does extend, from the original site—say an inflamed womb—to the remotest situation of an etiologically-parametric abscess, yet the suppuration may not only not be co-extensive with the cellular inflammation, but may occur at any part of it, without involving others. Thus,

while, in consequence of a metritis, the cellular tissue in the sheath of the psoas may be inflamed and suppurate, there may be no suppuration in the immediate neighbourhood of the uterus. Indeed the psoas abscess may make slow progress, the metritis and the immediate perimetritis or parametritis may simultaneously disappear; and when the psoas abscess is mature, it may be the only disease left in the body. A similar remote occurrence of suppuration I have described in the case of perimetric abscess.

The difference between the opinion of West and my own can be settled finally, only by further clinical and post-mortem investigation. No gynekological author has intentionally discussed it, and West does not enter upon it at any length. Grisolle held that iliac abscess was not a consequence of inflammation extending continuously from the internal genital organs. Burne held a like view regarding the pericæcal abscess in tuphlo-enteritis. On the other hand, Dupuytren and Velpeau, followed by most authors, held the opposite view. But all these authorities can scarcely be said to have contributed much, even to the statement of the question, far less to its solution.

Grisolle has insisted so strongly that the iliac abscesses are not the result of extension of inflamma-

tion by continuity, that I am constrained to give his well-expressed views.* "It is," says he, "generally supposed that abscesses of the iliac fossæ, and particularly on the right side, are consecutive upon an acute or chronic inflammation of the ileo-cæcal mucous membrane. This opinion, emitted by Dance, defended with talent by M. Ménière, has been latterly adopted by MM. Lebatard and Téallier. These physicians have, in fact, looked upon the inflammation of the mucous membranes as propagating itself with facility to the surrounding cellular layers. This transmission, on the contrary, appears to me to be excessively rare, and science possesses, I believe, very few examples in which inflammation of the conjunctiva, of the pituitary membrane, or of the buccal mucous membrane, has been observed to transmit itself to the subjacent cellular tissue, producing abscess there. But, not to leave our present subject, let us take the digestive tube, for example. If any one consults the researches of M. Louis on typhoid fever and on phthisis, works in which the author has analysed with great care the alterations of the viscera found in a great number of corpses, he will find that the very common inflammation of the ileo-cæcal portion, characterised by hyperæmia or *ramollissement*

* *Archives Générales*, etc., 1839, p. 40.

of the mucous layer, has never been propagated to the cellular tissue of the iliac fossa. Lastly, in the very frequent cases of typhoid fever and of epidemic dysentery, where the inflammation, taking an ulcerous form, destroys one or more of the intestinal tunics, so as sometimes to produce perforations, the morbid process is not observed to be propagated to the circumambient cellular tissue; and yet there are found in these cases numerous ulcerations, broad and deep; the muscular tunic is laid bare; its fibres are dissected and covered by a layer of concrete pus; in other cases the serous membrane is itself laid bare, inflamed, then perforated, without there being made out, in the midst of this disorder, any alteration of the cellular tissue of the iliac fossæ. There is nothing extraordinary in this, and it must be regarded as an illustration of that generalisation developed by Bordeu and by Bichat, and which consists in regarding the cellular tissue surrounding organs as forming for them an atmosphere which isolates their morbid actions."

* * * *

"It has also been objected, that the inflammation developed itself oftener in the subperitoneal cellular tissue than in that which is subjacent to the fascia iliaca; and it has been thought that this predilection arose from the neighbourhood of the intestine. But

this explanation is not exact, and if the superficial cellular tissue of the iliac fossæ is more frequently observed to be inflamed than the deep cellular tissue—a position which by the by is not yet demonstrated—there would be then only an application of that general law, so well brought out by Hunter, who shows that abscesses are infinitely more rare in the deep than in the superficial layers of cellular tissue, in whatever region of the body they may be studied.

"Nevertheless, let no one suppose that I absolutely deny the possibility of the transmission of ileo-cæcal inflammation to the cellular tissue of the iliac fossæ; but I hold only that this propagation is rare. I will even say, that up to this day it has not been demonstrated; yet analogy makes me regard it as possible; for we will soon see inflammation of some organs reach the cellular tissue of the iliac fossæ by continuity or by contiguity."*

* As Grisolle refers, for support, to Burne, we think it well to give the words of the latter.

The following passage is Burne's statement of his views (*Medico-Chirurgical Transactions*, vol. iv. 1839, p. 61). Speaking of the cæcum, he says:—"That this part of the intestinal canal where the dimensions vary, and the organisation changes, is particularly liable to irritation and to disease, admits of no doubt; but that irritation of the cæcum, from the causes mentioned by Dupuytren, can produce inflamma-

Taking the view opposed to Grisolle's, and speaking of the time of appearance of evidences of pelvi-

tion in the neighbourhood of this intestine, and thus cause the phlegmonous tumours and abscesses in the right iliac fossa, is difficult to understand. The irritation of foreign undigested substances lodging in the cæcum will excite inflammation of the cæcum itself, not of the subcæcal cellular tissue; and the inflammation may continue, and produce permanent disease of this gut, without extending to the subcæcal cellular tissue; as is shown by the Cases III. and IV. in my first communication, in which there was extensive chronic disease of the cæcum, without any morbid changes in the subcæcal tissue. Yet Dupuytren supposes that even trivial irritations of the cæcum may originate inflammation and abscess in the neighbouring tissues.

"These opinions of Dupuytren are adopted by Husson and Dance, and also by Ménière; indeed, the memoirs of these gentlemen may be said to be expositions of his doctrines. Ménière endeavours to sustain these opinions by advancing, as a principle, that 'phlegmasies muqueuses' spread not only along a mucous membrane, but to subjacent tissues, 'que l'inflammation de cette muqueuse (of the cæcum) peut se propager aux couches celluleuses contigues.'

"To this principle the pathology of inflammation is directly opposed. The rule obtains that inflammation limits itself not only to one organ, but to one tissue: the propagation of inflammation from one tissue to another, or from one organ to a neighbouring tissue, is the exception. It is the rule, as established by pathology, that obliges us now to recognise inflammation of the individual tissues of organs as individual

peritonitis of blennorhagic origin, Bernutz says*—"Here it is seen that pelvi-peritonitis never occurred before the eighth day; that it was rare before the fourteenth; that it became frequent at the end of a month, corresponding to a menstruation; that it again became exceptional after this period, and was related to the return of menstruation. The slow development of the pelvi-peritonitis in regard to the

diseases. We have bronchitis, pneumonia, and pleuritis, designating inflammation of the various tissues of the lungs; and muco-enteritis, proper enteritis, and sero-enteritis, designating inflammation of the various tissues of the intestinal canal.

"But it is said by the authors above cited, that the peculiar structure of the cæcum—viz. the absence of a peritoneal tunic at its posterior part, and its fixedness in the iliac fossa by means of cellular tissue, is the reason why inflammation propagates itself from the mucous membrane to this tissue. Here, again, it may be objected, that in many cases of abscess in the iliac fossa, the cæcum is found to be free of all trace of inflammation; and in other cases of extensive disease of the cæcum the subcæcal tissue remains free, uninvolved, and healthy. The principle thus laid down by Ménière, that mucous inflammation spreads to subjacent tissues, is not established; neither is the conclusion of Dupuytren, that irritation of the cæcum from fæcal matter or foreign bodies is capable of becoming the source of inflammation 'au voisinage de l'intestin,' borne out."

* *Clinical Memoirs on the Diseases of Women*, p. 58.

purulent discharge, as evidenced in the previous table, agrees very remarkably with the progressive increase of the blennorhagic inflammation. In no case have I seen that this pelvi-peritonitis deserves the name of metastasis; it has always seemed to me to be the result of propagation by contiguity; the inflammation extending from the vagina to the mucous membrane of the cervix, thence to the uterus, and thence to the Fallopian tubes, which thus become the starting-point of the serous inflammation."

West's doctrine of the extension of parametric inflammation, without direct continuity, may be illustrated by Aran's doctrine as to ovaritis, the result of gonorrhœa. Most authors regard the ovaritis as the result of extension of inflammation from the vagina, through the uterus and Fallopian tube, to the ovary—an opinion which I hold, and which tallies with my view as to distant abscesses being etiologically parametric. But Aran thinks differently. "Nothing," says he,* "proves that the propagation of the inflammation takes place through continuity of tissue. I have seen one case of gonorrhœa, where there had been inflammation of the peritoneum and of one ovary, without the corresponding tube being itself inflamed." This is

* *Leçons Cliniques*, etc., p. 403.

not the place to discuss Aran's one case; but we may just say, in order to explain it away, that it is probable that the signs of salpingitis had disappeared when he examined, or were undiscoverable, while those of the oophoritis and perioophoritis remained evident.

But this interesting topic—namely, the extension of parametritis, parasalpingitis, and paraoophoritis—does not end here. We now ask—Whither may it extend? In order to understand this question aright, I must remind the reader that I have already said that abscess may extend in every direction; that I have seen it, at once, as high as the kidney, and occupying the whole loin and iliac fossa, and groin and pelvis on the same side.* But while the abscess may extend in every direction by enlargement, in what direction does parametric inflammation extend?

Having thus distinguished extension of abscess by enlargement from extension of mere inflammation, I must point out how the extension of mere inflammation can best be ascertained. I believe it is by the formation of abscess having no direct continuity

* A marvellous and long-unexpected recovery of a puerperal case of this kind I attended with Dr. Cox, now of Innerleithen, and Professor Spence.

of suppuration with the original disease. Thus, if an etiologically parametric abscess forms near the region of the kidney, while there is none in the pelvic regions, I hold that the abscess shows that the inflammation of the womb extended there. It ended in abscess there, but nowhere else.

Now, clinical observation of numerous cases, and extended over many years, has appeared to me to show that parametritis, parasalpingitis, and paraoophoritis, may extend upwards as far as the kidney, that they do not extend into the iliac fossa, but that they are not rare in the region of the inguinal canal. The connection of the internal genital organs with the inguinal canal is manifest enough, but it is not so evident with the kidneys. If, however, the memory recalls the embryological condition of the internal genital organs, the distance between the ovaries and kidneys will be ideally reduced to nonentity; and the numerous cases on record, where the kidneys in the adult were pelvic organs, still further illustrate this neighbourhood of organs that are generally remote.

It may seem odd to many that, while I admit iliac abscess to be not a rare consequence of disease of the internal genital organs, I do not admit cellulitis of the iliac fossa as a consequence. To this

peculiar view I have been led by clinical observation. I have seen abscess as high as the kidney, and psoas abscess, and inguinal abscess, unaccompanied by intrapelvic abscess, or even by fixation of the internal genital organs, and where the histories of the cases left scarcely a shadow of doubt that the abscesses were etiologically parametric. But I have never seen an abscess of this kind in the iliac fossa without being able to trace it into the true pelvis. I have never seen an abscess of the iliac fossa—such as is often seen characteristically formed in cases of tuphlo-enteritis, follow delivery, or arise in connection with disease of the internal genital organs. I have been always able to find grounds for believing the iliac abscess to be extension of intra-pelvic abscess, or of psoas abscess, or of inguinal abscess, not the result of mere extension of inflammation.

Recently, a case, bringing out but not proving the doctrine I have just been discussing, occurred to a learned colleague. A woman, who had suffered from syphilis severely and recently, presented in the right iliac fossa a characteristic inflammatory tumour of that part, semi-globular, projecting from the fossa, coming to the edge of the pelvic brim, but no farther. My friend suspected it was uterine. Careful internal

examination discovered no disease of the uterus or ovaries, not even fixation or evidence of past disease. Only, the right Fallopian tube was patent, easily transmitting a probe. Because there was no physical connection discovered between the iliac tumour and the internal genital organs, I asserted my opinion that the iliac disease was independent of their state. Subsequently, suppuration took place in the iliac fossa, and the pus escaped by a small opening in the middle of the fold of the groin. This healed up, but thickening in the right iliac fossa never entirely disappeared. The woman died of waxy degeneration of the kidneys, liver, and spleen. An autopsy revealed no disease whatever in the true pelvis. The right Fallopian tube was in its ordinary state. There were remains of inflammatory disease about the cæcum.

This extension of abscess into the iliac fossa by continuity, but the non-extension of inflammation by continuity in this direction, may explain the great differences of authors as to the puerperal abscess in the iliac fossa. Authors who, like Grisolle and Aran, deny the occurrence of etiologically parametric abscess in the iliac fossa, or assert its very great rarity, have probably in the eye, when they make such assertions, the characteristic abscess of the fossa, such as is seen

in tuphlo-enteritis. The assertions of these authors, so explained, I confirm. Most authors describe abscess in the iliac fossa, from disease of the internal genital organs, as a part of or an extension of pelvic abscess, therein following Doherty, Dupuytren, and Velpeau; and their description, so explained, I confirm also.

I attended, along with Dr. Burn, not very long ago, a lady who presented a fine example of psoas or lumbar abscess following abortion. The case was of very difficult diagnosis. It was easily made out historically that the abortion was the cause of the disease, but it was at first very difficult to ascertain the nature of the disease. An attack of metritis had followed the abortion, but at the time when I was called in, every trace of it had disappeared from the pelvis. Pains, like those of sciatica, were the chief and almost only complaint. The abdomen was so large and fat that the state of it was with difficulty investigated. Only, fulness, without dulness on percussion, and a considerable tenderness, could be made out in the right flank. She was treated by poulticing this part. Soon, an abscess pointed in the middle of the right groin. It was opened, and an enormous quantity of pus evacuated. The lady then rapidly recovered. I never saw an iliac abscess occurring under like con-

ditions, and if my views are correct, it does not occur under like conditions.

In his work on diseases of the kidneys, M. Rayer dwells on the reciprocal relations of uterine disease and of pregnancy with inflammatory disease of the kidney; and this, apart from the common renal disturbance produced by obstruction to the flow of urine by disease in the pelvis.*

* This point has not escaped Grisolle. "It has," says he, "been asserted that inflammation of the kidneys might easily extend to the cellular tissue of the large pelvis. This is a supposition which no fact proves, and which is founded only on one very incomplete observation, published by Dr. Téallier, in which the author speaks of a man of fifty-six years of age, who had been subject for some years to renal pains, often passing with his urine a fine red sand, who in 1826 had a violent attack of nephritic colic lasting for fifteen days. The patient recovered, after having passed a great quantity of pus. The following year the same symptoms came on; the fulness, the swelling, which already had been present in the iliac fossa the previous year, again returned on this occasion, but more severe than before. After six weeks of suffering, pus came away abundantly by stool. Eight days afterwards the patient sank. An autopsy was not made, but the author supposes that the pus, which was twice passed by the bladder and the rectum, proceeded from an inflammation of the cellular tissue of the iliac fossa, consequent upon a nephritis. I believe, on the contrary, that the abscess existed only in the kidney. In favour of M. Téallier's opinion, it might be

objected that swelling and fulness in the iliac fossa were made out during life ; but these symptoms, insufficient as they are to characterise an inflammation of the cellular tissue, might have been produced by the kidney enlarged in size and distended by pus ; for it is not rare, under these circumstances, as Chomel remarks, that fluctuation, indicating suppuration of the kidneys, appears at a considerable distance from the lumbar region, a circumstance which may deceive the physician as to the origin of the pus. Lastly, I will add, that in abscess of the kidney emptying itself into the surrounding cellular tissue, the liquid may find its way to a greater or less distance, and come to form in the iliac fossa a symptomatic collection, which, on a superficial examination, might be considered as being idiopathic, and the result of propagation of inflammation from the kidney to the cellular tissue of the loins, and o the iliac fossæ." * On this subject, see footnote, p. 141.

* *Archives Générales de Méd.* p. 48.

CHAPTER IX.

ON PERIMETRIC AND PARAMETRIC ABSCESS GENERALLY.

It has been an object of interest to pathologists, to ascertain which side of the pelvis is most frequently the seat of inflammation and abscess. In 40 cases which I have noted with a view to this question, I have found the disease to occur with equal frequency on either side of and behind the uterus. In 13 cases, the chief mass was on the right side. In 13 cases, the chief mass was on the left side. In 2, it occupied both sides at once. In 12, the chief mass of diseased structure lay just behind the uterus.

In Grisolle's 17 cases of puerperal abscess of the iliac fossa, the right side was affected 6 times, the left 11 times.

Courty gives the following statistics :—

Of 52 cases, West has seen 34 on the sides, of which 21 on the left. Of 53 cases, Gallard has seen 32 on the sides, of which 11 on the left. Of 24 cases, Aran has seen 17 on the sides of the uterus.

Jacquemier describes puerperal iliac abscess as

opening externally as often as it opens internally into a mucous canal.

When a pelvic abscess opens externally, it generally does so in the groin, and most frequently between the internal and external inguinal openings. But it may open by the side of the anus, or on the upper and inner part of the thigh, and it has been described as finding vent through the obturator foramen. When very large, such abscesses may be opened even above the crest of the ilium, or higher in the back. I have seen one open near the saphenous opening, and Thomas describes a case which he saw with Dr. Echeverria, where the pus passed through the sciatic foramen, and, burrowing upwards and forwards, came forth near the great trochanter.

When a pelvic abscess opens internally, it most frequently discharges itself through the rectum ; * next most frequently through the vagina, and only occasionally through the bladder. Bursting into the peritoneum and causing general peritonitis is a rare termination. A still rarer is bursting into the peritoneum, and death rapidly occurring without peritonitis, of which M. Perrochaud and others have related examples.

"The time," says Grisolle, "at which intestinal per-

* Graily Hewitt and others make the same statement. *Diseases of Women*, 1st edit. p. 229.

foration takes place varies much; thus, we have seen it take place on the thirteenth, fifteenth, sixteenth, twentieth, and twenty-seventh days, two months, and three months, dating from the commencement of the disease."*

I have an opinion that abscesses in the cellular tissue (parametric abscesses) open more frequently externally than intraperitoneal abscesses (perimetric abscesses) do. One cannot dissect an intraperitoneal abscess without easily apprehending why such most frequently burst into the rectum, rarely higher up in the alimentary tract. For the rectum and adjacent sigmoid flexure present a large surface to the abscess, with only a thin wall separating the pus from the mucous tract. Besides, the rectum is more frequently a part of the wall of the abscess than the vagina, which latter has besides only a small area covered by peritoneum, and offering as easy an escape for the confined pus as the rectum does.

"The most frequent channels of evacuation are," says Thomas,† "the vagina and rectum in the non-puerperal form, and probably the abdominal walls in the puerperal, or, at least, the results of Dr. M'Clintock's carefully-noted cases would lead us to believe so. In 37 puerperal cases treated by him which

* *Arch. Gén. de Méd.* p. 147. † *Diseases of Women*, p. 356.

ended in suppuration, 20 abscesses discharged in the iliac regions, 2 above the pubes, 1 in the inguinal region, and 1 beside the anus. Of the remaining 13, 6 were discharged per vaginam, 5 per anum, and 2 burst into the bladder. In the non-puerperal variety, it is extremely rare for the abscess to discharge externally, and fortunately, in both forms, it is rare for it to burst into the peritoneum."

Pelvic abscesses may open in more directions than one. Many examples show that free evacuation in one direction does not prevent the abscess finding vent otherwise. No doubt this occurrence may sometimes be simulated by the opening of different abscesses, one after another, and in different directions. But there is no doubt that the same abscess may have not only openings in every possible direction, but more than one in the same direction. I have, in my museum, a preparation of perimetric abscess where there are openings into the rectum and into the bladder. They are all spontaneous openings.* I recently dissected another example of puerperal perimetric abscess,

* Bernutz (*Diseases of Women*, vol. ii. p. 105) has the following remark:—"The spontaneous opening of these purulent collections into the vagina, though I do not dispute the fact, since they have been frequently opened there, has, nevertheless, not been demonstrated, at least to my knowledge, by any autopsy."

and found two openings, both into the small intestine. Grisolle describes a case of iliac abscess, bursting through the uterus, which he borrows from Dance. Wainwright describes another.*

Bursting into the bladder I have repeatedly observed. It is well attested during life, only when there is disappearance of a tumour or purulent collection simultaneously with the appearance of pus in the urine. I can never forget a case in which the autopsy showed that the abscess had been slowly evacuating its contents into the bowel, while I, during life, believed it to be slowly evacuating through the bladder. For, with slight diminution of the perimetric abscess, there appeared in the urine, and without any cystitic symptoms, a considerable quantity of pus and a little tinging of blood, which lasted till death. I mention this case to show how careful the pathologist should be in asserting any special seat as that of the evacuation of an abscess, if no autopsy has been made.

An abscess not very rarely degenerates into a fistula. The internal openings are those which mostly remain open. Some interesting cases of fistula following abscess have been described by Simpson.

* On the locality of bursting, see remarks by Priestley, *Edinburgh Medical Journal*, vol. xviii. 1854, p. 530. See also Churchill, *Diseases of Women*, 5th edit. p. 157.

They depend either on unhealthy constitutional condition, or on the mechanical difficulty raised by induration and cicatrices against the coalescing completely, or the coming into mutual contact, of the walls of the abscess or fistulous tract. I have seen no inveterate case of fistula of this kind, having an external opening.

Sloughing has been described by Grisolle, Simpson, and others, as occurring to parts of the walls of a pelvic abscess. This happens often in diffuse suppurations, which are not abscesses. In ordinary pelvic abscesses I have never seen it, except where fæculent or other foreign matters had been drawn into the abscess.* Then, the wall of the abscess may be in a sloughy condition. I have no doubt that some modes of treatment may also cause sloughing, as the breaking up of dissepiments in the interior of a pelvic abscess, by the finger, a practice recommended by some authors.

* I may here give Grisolle's statement on this point. "Gangrene," says he—"this sad complication—is scarcely ever observed except in abscesses consecutive to mortification of the cæcum or of its appendix, and to the escape of stercoraceous matters into the neighbouring cellular tissue. I do not believe that gangrene has ever been observed in abscesses of spontaneous origin, which are developed in the subperitoneal cellular tissue. If, on the contrary, the inflammatory engorgement, although spontaneous, is subjacent to the fascia iliaca, this may produce there a true strangulation of

Pelvic abscesses have generally a tendency to discharge themselves freely when opened spontaneously or artificially. But sometimes this tendency is slight, and the result is slow evacuation. In others, there appears to be absolutely no such tendency. For, in such, evacuation does not take place with any completeness, and the displaced pus is replaced by fæculent matter sucked into the partially-emptied sac.

A like accident may occur in perimetric abscess opening externally, air being drawn into the abscess. I was not long ago called to attend a very alarming case of perimetric abscess, which was a consequence of a recently-performed operation for enlarging the cervical canal by metrotomy. The abscess opened spontaneously by a rounded aperture, such as would scarcely transmit a pea, situated fully an inch above the middle of Poupart's ligament of the left side. The abscess discharged freely, and healed up very

the inflamed parts ; and it will be sufficiently common to see in these subaponeurotic abscesses the fibres of the iliac muscle blackish, softened, and exhaling a fetid odour. No symptom can produce a sure diagnosis of this unfortunate termination ; but, when issue is given to the effused matter, it exhales a fetid odour, and brings with it gas, fæces, and bits of cellular tissue, of muscles, and of mortified tendons. One can understand that death should be the consequence almost inevitable of such disorders."—*Archives Générales de Méd.* iii. serie, tome iv. p 159.

slowly. The slightest pressure on the abdominal wall of the emaciated patient, or on the roof of the vagina, made pus flow from the opening, and with it came air in frequent globules. It was not fetid, and had, in my opinion, been drawn, by certain movements of the body, into the abscess, which had evidently no mechanical tendency to collapse and contract its dimensions, and thus keep air out of its cavity. (This patient completely recovered.)

On this difficulty of procuring coalescence of the walls of a large abscess, Grisolle has the following interesting remarks:—"Several," says he,* "of the abscesses which develop themselves in certain parts of the body become fatal, because, the denudation being too great, the opposite walls cannot again come into contact with one another, and so dry up the sources of pus. This cause acts frequently in keeping up the suppuration of the vast abscesses of the axilla and of the lower part of the rectum, etc. In these same cases the easy penetration of air into the interior of the collection alters the secretion produced, and this becomes the source of new accidents. Nothing of that kind, they say, is observed in the abscesses of the iliac fossæ, whose walls keep always adhering more or less to one another, in consequence of the

* *Archives Gén. de Méd.* iii. serie, tome iv. 1839, p. 156.

powerful pressure exerted upon them by the viscera and the muscles of the abdomen. This pressure, according to these authors, should be even so powerful as to oppose altogether the introduction of air, and John Bell thinks that this should never be invoked to explain the grave accidents which sometimes show themselves after the opening of iliac abscesses. I think," adds Grisolle, "there is exaggeration in this mode of reasoning, for it is incontestable that there are iliac abscesses whose walls, habitually gaping, permit the atmospheric air to find its way into their cavities. I have often observed it in the abscesses symptomatic of vertebral caries, and my friend Dr. Jacquemier has told me that he has seen it on two occasions in phlegmonous abscesses following delivery. In these two patients, after having emptied the purulent cyst, it was not found to collapse on itself; it remained, on the contrary, widely gaping, and of this one could easily be convinced by introducing the finger into the cavity. The air, therefore, penetrated thither with facility, and percussion practised on the anterior wall of the abscess gave a very distinct tympanitic sound. These two women succumbed, exhausted by the length and abundance of the suppuration."

Grisolle joins Dupuytren in the opinion that iliac

abscesses, communicating with the great intestine, are not liable to regurgitation of fæcal matters into them, except when these abscesses succeed to gangrene of the cæcum and of its appendix. With this opinion I cannot coincide, for I have twice seen perimetric abscesses contain fæculent matters. According to Grisolle, Dupuytren gives three reasons why this regurgitation does not take place. These are—1. That the abscess empties itself gradually; 2. The obliquity of the aperture; 3. The peculiarity of the opening through the intestinal wall leading to its acting as a valve. These reasons of Dupuytren appear to me to be specimens of misplaced ingenuity. No doubt the slowness of the emptying of the abscess saves some from regurgitation of fæcal matter. But the pathologist only suggests a fact which offers no explanation. The questions arise,—Why, with a free opening, does the abscess evacuate itself slowly? Why does slow evacuation prevent fæcal regurgitation? The obliquity of the opening and the valvular nature of it are mere fancies, which could scarcely enter the mind of any one who, instead of dreaming of possibilities, looked at the appearances. My own opinion is, that if this regurgitation can be explained at all, it must be by resort to certain peculiar conditions of the retentive power of the abdomen.*

* See my *Researches in Obstetrics*, p. 409.

That perimetric and parametric abscesses follow certain fixed laws as to site and peculiarities of bursting I have no doubt. Their discovery remains for future observers. At present we must lament we do not know why such abscesses follow such various courses.

The last peculiarity of pelvic, and probably of perimetric abscess only, which I shall mention, is, that some have no tendency to burst at all. I have repeatedly opened such abscesses, whose existence certainly dated several years before my seeing them, and which, when I operated, showed no tendency to point in any direction.

The pus evacuated from a pelvic abscess is generally laudable. Sometimes it is mixed with old blood, and this peculiarly occurs in some cases which might be as well called hematocele as abscess. Sometimes the pus evacuated is fœtid, but why it should be so in some and not in other cases, I do not know. Fœtor, as is well known, is not of itself indicative of communication of an abscess with a neighbouring viscus.*

* On this subject see the chapter on "Fœtid Abscesses" in the *Leçons Orales* of M. Velpeau, tome iii. p. 371. See also Grisolle, *Archives Gén. de Méd.* iii. serie, tome iv. p. 144.

CHAPTER X.

THE ULTERIOR HISTORY OF PERIMETRIC ADHESIONS.

In this chapter I wish, first of all, to notice two peculiar classes of cases of adherent and fixed uterus, a state generally accompanied by more or less fixation of the appendages, and then to discuss some of the questions connected with the restoration to the uterus of its natural mobility. The uterus is the organ chiefly spoken of, because its condition in respect of immobility is most easily and satisfactorily made out. The terms, fixation or immobility of the uterus, are, in the subsequent remarks, used to imply exactly what the words mean, or such degrees of restriction of movement as leave no doubt of the propriety of the expressions.

The peculiar cases of adherent and fixed uterus, which I wish to describe, are distinguished from one another, by their not having distressing pain as an addition to the fixation, or by their having special pain as an accompaniment.

Cases in which fixation or immobility of the uterus is the only disease in the pelvis, and where

there is no special pain, are much more frequent than those of the second or painful class. In such painless cases there may be indefinite suffering, or the pains of uterine ailment, or pains attending menstruation, but there is no special neuralgic suffering. The perimetritis, with or without abscess, which has produced the cohesion of parts, and consequent immobility, has passed away, perhaps long since, and the uterus and appendages have not regained their natural condition of mobility. This is not the usual course of such cases, for a uterus fixed by adhesions some considerable time after the disappearance of perimetritis, is rare in comparison with the frequency of primary or early peritonitic fixation.

I might cite several examples of fixation of this first kind, where, after several years have elapsed from the time of the last perimetritic attack, the uterus still remains immovable in the pelvis, the patient being meanwhile without complaint and with all the outward signs of vigorous health; but it would be merely tiresome and not instructive to do so.

The second class of cases of fixed uterus is far more important, because there is in them the additional urgency of pain, "the worst of evils." In this set of cases, a true diagnosis is the most valuable

achievement that, so far as I know, can be made for them. And it is very important to avoid error in this respect, because improper treatment would be either useless or might aggravate the complaint. The subject is best described by illustration, and I shall adduce a very interesting case, which was sent to me by Dr. Gairdner for diagnosis and treatment.

Margaret N., æt. twenty-two, admitted into the Royal Infirmary on 16th June 1862, was confined on 30th March, of her first child, after a long labour. She got up a week after her delivery, and went about for eight days. At the end of this time, the vaginal discharge was, she says, suddenly arrested, and she had shivering and headache. These symptoms were soon followed by great abdominal pain, chiefly in the left side. She says she lay insensible for a week, and that, on coming out of this state, she found her left arm and leg very weak. Her speech also was indistinct.

At present she cannot walk without support, her left leg being very weak, though its sensibility is entire.

She had been under Dr. Gairdner's care, who sent her to me for examination and advice, having the opinion that the case might perhaps be one of reflex uterine paralysis.

On examining the abdomen, a circumscribed hardness is felt on the left side, a little above the middle of Poupart's ligament. This part is the seat of constant annoying pain, but it is not tender to the touch. Light percussion discovers comparative dulness over it, and over a space between it and the anterior margin of the brim of the pelvis; but stronger percussion shows that there is not absolute dulness over the part. The uterus is found to be high in the pelvis, somewhat drawn to the left side, and its fundus is, by probe, ascertained to be the fixed hardness felt in the left hypogastric region. In other respects no important abnormality is discovered.

This woman had disease of the chest seriously retarding her progress. But she was able to leave the hospital on the 10th July, cured of her hemiplegia, but having the fixed pain, in the region of the fundus of the uterus, persisting.

She left the hospital with instruction and encouragement to return to us, should her pain persist. She never returned, and I am disposed to believe that spontaneous cure, by loosening of the fundus uteri, took place. But this is, of course, only the statement of a probability.

The chief outlines of another case may be given, to show with what persistency the disease sometimes

sticks to a patient. Mrs. B. came from Fife three several times, with intervals of a year, to be under my care for the same complaint. She had a fixed pain in the left side of the pelvis, which she could not say ever left her. She had good health, and had every outward appearance of robustness. She had indeed no complaint but of the pain. What its intensity was I cannot say, but she was willing to have anything I liked done for it. A vaginal examination discovered the conditions of health in all but one particular, and the examinations in the three successive years always revealed the same condition —the uterus fixed and immovable, as if nailed to the left sacro-iliac synchondrosis; and the extent of hardness behind the uterus was so slight as to exclude all probability of pus being encysted there. Treatment was actively pursued on her first coming under my care, from my having the impression that there might still be some inflammation in the part. But treatment was of no avail.

I may further mention a third case, that of a lady completely recovered from a dangerous attack of metro-peritonitis post partum, except a severe and constant pain, with tenderness below the umbilicus and a little to the left of the mesial line. At this point, a hard mass could be felt, which was evidently

attached to the abdominal wall. The practitioner who brought the case under my notice believed that there was an abscess in the situation of this hardness. But a careful examination, and the passing of the probe into the centre of the hardness, left me feeling sure that we had to do only with a tender, adherent, and fixed uterus; and I believe the subsequent history of the case justified my diagnosis.

In the first and third of these cases, the information obtained by the probe was absolutely necessary in the diagnosis, for the hardness closely resembled what is often felt in more ordinary cases of perimetritis and parametritis, when the uterus is distant.

It appears to me that this fixation of the uterus, which is so common a continued, yet seldom permanent, result of perimetric inflammation, can only be explained by the existence of peritoneal adhesions, the result of adhesive inflammation of the pelvic peritoneal membrane, or of intraperitoneal abscess, or hæmatocele of the pelvis. The immobility arising from parametritis is naturally supposed soon to disappear after the complete removal of the inflammation, even should there be a cicatrix in the cellular tissue; and parametritis could not account for the absolute fixedness and misplacement of the entire uterus long after all active disease was gone. Adhesions of the

appendages may cause no restriction of movement if confined to themselves, that is, one with another; but adhesions of the appendages to the parietal peritoneum may cause partial or nearly complete uterine fixation. In the best-marked cases of uterine fixation, as in those related or referred to in this chapter, the uterus itself must have been adherent to the parietal peritoneum; for its complete fixation otherwise is not conceivable.

The absence of pain, which characterises what I have made the first class of cases, does not demand any solution, other than arises from such explanation, as can be suggested, of the cause of pain in the second class characterised by its presence. This point is one of great difficulty. The natural solution of it is found in the displacement and stretching of the tissues, which was present along with fixation in all my carefully-diagnosed cases. But then it is well known that many cases occur in which the uterus is found displaced and stretched without any pain. For example, I had lately under my care a case of large ovarian dropsy, in which no part of the uterus could be felt by vaginal examination, where there was, nevertheless, no pain at all complained of. In spite of such antagonistic observations as that just given, I still look to the condition of stretching, as probably

accounting for the pain. And I abjure such delusive explanations as are implied in the terms irritability or neuralgia, which are mere playings on words.

For the satisfactory diagnosis of the merely fixed and adherent uterus and appendages, both care and skill are necessary. For it has to be decided that inflammation is absent, and that pus is not contained in the hardness fixing the organ, and that other disease, with which the fixing hardness may be confounded, is absent, as tumour, whether malignant or not. In the present state of our diagnostic resources, doubt will always remain as to a supposed case of this kind, if there be distinct tenderness of the parts affected, or if the fixing hardness form a mass or tumour. The advancing history of such cases may make their nature clear, but it cannot be ascertained with satisfactory precision while pain or tumour is present. To diagnose absence of tumour, the uterine probe may be very valuable, if the tumour is inconsiderable; for the probe, entering it, may show that it is not a new growth or tumour, but merely the uterus.

When the adhesions, causing fixation, involve an ovary, the resulting hardness will generally, not always, occupy the side of the pelvis; and nothing, I believe, can, in most such cases, lead to a good diagnosis

but a complete history of the physical changes that took place in the case, the history going back to the period when the ovary was only inflamed and not fixed. For there will always be an amount of lateral tumour, constituted by the ovary inclosed in adhesions, and the exact nature of this tumour cannot be decided otherwise with much assurance.

In the treatment of cases of merely adherent and fixed uterus and appendages, both medicine and surgery are powerless. No doubt, some good may arise from such hygienic and medicinal measures as may prevent the springing up anew of inflammation; but this is only negative treatment. The use of mercurials and of iodide of potass, whether administered by the mouth or locally applied, will, no doubt, be often resorted to with a view to cure; but I can give no testimony to their utility, when, as is here supposed, inflammation is entirely gone. I am certainly not rash enough to endorse the statement of Boivin that such means may remove adhesions.

As to the ultimate history of cases of the kind under discussion, I cannot speak decidedly. But, I believe they as a rule, with few exceptions, gradually return to the condition of health, or nearly so.

Madame Boivin appears to me to surpass sub-

sequent writers on diseases of women in her appreciation of the importance of immobility of the uterus. In her little work entitled *Recherches sur une des causes les plus fréquentes et la moins connue de l'avortement*, good evidence of her opinions may be found. She there insists strongly on the injurious influence of adhesions of the uterus and appendages in producing sterility or abortion, and also on their more general interest and importance.

I now proceed to consider some of the questions regarding the restoration of the mobility of the uterus; and here I am sure that Madame Boivin laboured under grave misconceptions. These misconceptions are expressed in her exaggerated views of the importance of such peritoneal adhesions as causes of sterility, and especially of abortion. She did not recognise the frequency and rapidity of the removal of adhesions, and their gradual disruption even in the course of pregnancy. And the same partially-erroneous view is taken by Doherty, who, speaking of the ulterior results of what he designates "chronic inflammation of the uterine appendages," says that "from the unnatural position in which the uterus is detained, future impregnation may be rendered impossible, or, if conception do take place, the womb being firmly bound down and unable to

expand, casts off the ovum prematurely, and thus a succession of abortions may ensue."*

The very frequency of such adhesions of the uterus and of its appendages is hostile to their being supposed to have the influence that Boivin attributes to them. I know no good estimate of their frequency, whether based on autopsies or not; and even were there such, I do not see how it could now be made to bear on this discussion.† Pathologists who

* *Dublin Journal of Medical Science*, vol. xxii., 1843, p. 208.

† M. Aran has afforded us some statistics on this point. "A collection," says he, "of 53 autopsies of females, which have been made in my *service* during a period of eighteen months, has furnished me with 29 cases of adhesions, and 24 cases in which adhesions were not found. Of these 53 women, 38 had had children, and of these 24 had adhesions; 15 had not had children, and of these 5 only had adhesions. To make the statement otherwise, adhesions were twice as common in women who had had children as in women who had not."—(*Leçons Clin. sur les Mal. de l'Uterus*, p. 718.) Courty (*Traité pratique des Mal. de l'Uterus et de ses annexes*, p. 535) has misrepresented Aran's facts, by making the important omission of the circumstance that all the women examined died under Aran's care. They were, therefore, in a scientific sense, selected autopsies, for it is at least probable that the cases under M. Aran's care were of a peculiar class. This condition of Aran's data—viz. that the women examined all died in his *service*—and the additional deficiency of state-

have paid attention to the point must have noticed the great frequency of pelvic cohesions — most common about the tubes and ovaries,* but frequent also as affecting the uterus. These adhesions are seen of all kinds of density, but frequently as bands of length and thinness such as only imperfectly to impede motion—evidence, in themselves, of a gradually-progressing change from close adhesion to complete loosening. But the practitioner in the diseases of women has a more copious, though often less reliable, means of ascertaining the frequency of uterine immobility. This important condition may be described as almost a matter of daily experience in extensive practice in the diseases of women; and this, when only such cases are held in view as are evidently examples of peritoneal fixation; as may be judged by the absence of inflammation or tenderness, absence of any tumour, the seat and extent of

ment of the extent and position of the adhesions, whether they fixed parts or not, renders them of very shadowy importance in my inquiry.

* The greater frequency, with which adhesions are found about the tubes and ovaries, than about the uterus, may partly arise from their smaller mobility, or the less amount of movement to which the tubes and ovaries are habitually subjected, and the consequent smaller chance of their adhesions being quickly destroyed.

the fixation, and the length of endurance of the condition.

Every practitioner who has directed his attention to this point must know many examples of a uterus, once fixed by peritoneal adhesions, becoming gravid and successfully going through all the stages of this state. Such cases are, all and each, irresistible evidence of the spontaneous destruction of adhesions, and they are numerous. Among them may be mentioned the now numerous cases of pregnancy after Cæsarean section, after an extra-uterine gestation, and after ovariotomy. But these are not the most common; for those following adhesive perimetritis, or perimetric abscess, or hæmatocele, are far more frequent.

But I have seen cases in which I could entertain no doubt that strong adhesions of the uterus were destroyed by pregnancy as it advanced. These include cases in which, from this condition existing, sterility had been unfortunately predicted by practitioners, and cases in which I myself have expected abortion from a like cause. That abortion is liable to happen, Madame Boivin's cases will show, and I have had striking examples in my own practice. I may, however, give the following instance of pregnancy successfully accomplished under unpromising

circumstances. A lady not very long married was brought to me by Dr. John Brown, that I might investigate the state of the pelvis with a view to ascertaining the probability of fertility. The lady was very uneasy on the subject, believed herself doomed to sterility, and had come a great distance to have a skilled opinion on her case. The shortness of the period that had elapsed since marriage, rendered the question of sterility a premature one to raise; and the impropriety of raising the question was heightened by the medical history of the woman. For she was in sexual respects in good health, and had always been so, except some attacks of dysmenorrhœa before marriage, and a probable attack of inflammation since marriage, which had for a time rendered coitus painful. Vaginal examination revealed in this female the conditions of health, except immobility and misplacement of the uterus. The uterus was not enlarged, but it was completely retroverted, the fundus lying at a lower level than the cervix. Besides, the fundus was fixed in its unnatural situation. More than once I passed into the uterine cavity a knob-pointed strong probe, and made very powerful attempts to elevate the uterus, but without even partial success; and there was certainly nothing but adhesions to prevent its

elevation, for the woman was a spare, soft person, and easily examined. Before a year had elapsed, or thereabouts, she bore a living child, and I, as often happens, got the undeserved credit of curing her sterility. About the third month of pregnancy, she had some unusual pelvic suffering, and slight bloody discharges excited a natural alarm lest abortion should ensue ; but, with rest and other simple attentions, she escaped the risk. In this case it is, in my opinion, almost impossible that the adhesions could have been removed before the pregnancy commenced.

I can offer no actual facts in illustration of the rapidity or slowness of the renewal of mobility of the uterus. But I have made numerous observations with a view to this point, though not so precise as I desiderate. That there are great variations in the time occupied by this beneficial process I am well aware, and there are, no doubt, cases in which it never begins.

I had lately under my care a young lady who, after delivery, had large perimetric abscess in 1863, and who has for years been in perfect health, as she describes it, but in whom the uterus remains fixed in the densely-indurated pelvic brim.

I had lately under my care a young married

lady who has, for about a year, had the uterus absolutely fixed in the pelvis by adhesions, and who for the last six months has described herself as being in perfect health. This state of health I join in asserting, making the exception of uterine fixation by adhesions, producing induration without tenderness behind and to the left of the uterus. The uterus is only now, after twelve months of absence of active disease, beginning to show under pressure some amount of mobility.

I have seen many cases where, after ovariotomy, and after perimetric abscess and adhesive perimetritis following operations, the completely fixed uterus has resumed a considerable degree of mobility in very much less time than six months after the disappearance of active disease.

The following case illustrates the rapid disappearance of adhesions. The patient was a young woman, sixteen years of age, who had recently gone to live in a brothel. She was affected with inflammation of the left ovary. The rest of the case will be got in the following brief abstract of the hospital report of it:—

A. B. complains of pain in the lower belly, of frequent calls to urinate, and of painful micturition. On examining the hypogastric region, there is found

nothing abnormal, except acute tenderness over the left half of the brim of the pelvis, the situation of the left ovary. On examination of the vagina digitally, there is found fulness and great tenderness in the left posterior quarter of the upper portion of the pelvic cavity. Combined external and internal manipulation discovers in this part the swollen and tender ovary. The uterine cervix is mobile, but its body is absolutely fixed, as if nailed to the sacrum. Behind the cervix, dense fixing induration can be reached by the finger. Examination of the bladder discovers only slightly-increased tenderness of it. It is capacious and soft. The urine is healthy, except an increase of flocculent mucus.

It is not necessary to give the whole history of this case, and of the various examinations in its progress; suffice it to say, that the above details were taken down on March 18. On April 15, or in about four weeks thereafter, during which time she had lain almost constantly in bed, the following is the state:—Digital examination per vaginam discovers nothing abnormal. The uterus is quite movable and in its natural situation.

In this case, the susceptibility of a thorough examination, the height in the pelvis of the induration, its site, and the mobility of the uterine cervix, left no

doubt of the uterine fixation being the result of adhesions. Their power to fix the uterus had diminished gradually in the course of four weeks, and at the end of that time, was quite gone. It was doubtful whether the fixation was from perimetritis, the result of mechanical injury, or from perioophoritis.

A case was recently under my care, in which pregnancy occurred in a fixed uterus. I had previously removed from this lady's uterus a large fibrous tumour. She left town during the progress of rapid convalescence from the operation. Little more than six months afterwards, she was under my care, miscarrying in a pregnancy advanced three months. Nothing unusual occurred. The uterus was found almost quite immovable in the pelvis.

In this case, the fixation of the uterus could not be supposed to result from disease arising in the course of an ordinary miscarriage, during which no symptoms of disease presented themselves; and the progress of pregnancy for three months was evidence that the adhesions binding the uterus had undergone considerable changes. It is highly improbable that they were only put on the stretch when the fourth month began. No doubt they were probably the cause of the miscarriage, from their not yielding farther than they did with a rapidity to accommodate

the uterus, not only as it increased in bulk, but as it tended now to change its position.

Madame Boivin relates a case which she attended with Professor Gardien, in which, while apparently not admitting the development and disappearance of adhesions, she yet states that the pregnancy advanced even to the seventh month. I am not of opinion that here, the evidence of the existence of adhesions is sufficient; but admitting her view of the case, I can see in it evidence of how the diseased condition tends towards spontaneous cure. For it is almost inconceivable that pregnancy could go on to the seventh month without great changes in adhesions, which were present before pregnancy began, even though on one side of the organ only. The woman had miscarried three times at the seventh month. Boivin discovered adhesion of the uterine appendages on the right side of the organ. The cervix was carried to the left, so that the fundus was to the right, and the body across the excavation of the pelvis, and much elevated towards the abdominal strait. The cervix could be brought by the finger to the centre of the vagina; but, when again let alone, it returned to the left.

The following case is worthy of study, as an example of the removal, even to complete disappear-

ance, of adhesions that must have been considerable. I shall give it in the words* of Dr. Thomas Keith, into whose hands the patient came for operation :— "R. S., aged 23, had enjoyed good health till January 1864, when she felt pain in the left side. In March she applied to Dr. Matthews Duncan, who detected an ovarian tumour, which, by May, filled the abdomen. One evening in July, while out walking, a thick glutinous fluid began to escape from the vagina. This continued to flow during the night and following day, leaving the abdomen quite flat. In a few weeks she had regained her former health, and for some months was able for service. In May 1865, having again increased in size, she was admitted into the Royal Infirmary under Dr. Duncan; and in June nearly two gallons of thick green fluid were removed by tapping, leaving a semi-solid tumour as high as the umbilicus. The cyst was refilling when she left the hospital in the end of July. Soon after this she came under my care, Dr. Duncan having asked me to undertake the surgical management of the case, which we looked upon as rather a hazardous one, from the extent of adhesion which was suspected, and from the bad general condition of the patient.

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* *Edinburgh Medical Journal*, Dec. 1866, p. 493.

"Ovariotomy was performed on the 21st of November. Dr. Matthews Duncan, Dr. Gamgee, and other friends, were present. The incision extended from two inches above the umbilicus, to seven inches below it. The adhesions were extensive and firm; the omentum came in between the tumour and wall, and was partly adherent to both. As it was a good deal torn, and bled freely, I cut away a piece the size of the hand. The tumour was very vascular, and there was more blood lost than usual. The pedicle was about an inch and a half in length; it arose from the right side of the uterus, and was secured by a clamp. Several vessels in the omentum and wall were ligatured, the ends being cut short. The pelvis was sponged from all blood, and the wound closed by eight deep silk sutures. There was nowhere any pelvic adhesion, and no evidence in what way the fluid had escaped the year before. The left ovary felt normal in size, but it was adherent, and could not be brought into view. The cyst-walls and contents weighed thirty-three pounds."

Now, in this case, the following facts are unquestionable:—A large ovarian cyst emptied itself per vaginam. Ovariotomy, performed about sixteen months after this occurrence, showed that there were then no pelvic adhesions at all, no connection betwixt

the cystic mass and a Fallopian tube, the uterus, or vagina. Besides these facts, no one will, I believe, deny that, in July 1864, there must have been connection by adhesions, with some of these parts, when the cyst emptied itself through the vagina. If this be so, then the changes in, and growth of, the tumour after the spontaneous evacuation in July 1864, and the tapping in June 1865, must have gradually destroyed them in the usual way. While this was the case with the pelvic adhesions, numerous strong adhesions, in other parts of the tumour, remained to show that a great amount of adhesive peritonitis had, in the history of the case, been present—disease sufficient to produce the adhesions that had been destroyed.

While this interesting case exemplifies the destruction of adhesions, it also suggests the law of such destruction. For the extraordinary degree of motion of an enlarging and irregularly-growing ovarian tumour, gives scope for our supposing sufficient continued traction on the adhesions as at last to destroy them, through gradual elongation and atrophy, such as is so often illustrated, not only in adhesions of the uterus and its appendages, but also in pleural and pericardial adhesions. It is easy to conceive how a growing ovarian tumour, or a uterus,

growing in pregnancy or otherwise, should slowly pull out and destroy organised bands of lymph. The case is of importance in connection with the bearing of adhesions on the question of the propriety of ovariotomy in any particular case, for it shows that, even when known to be present, their disappearance, as the history of the case is prolonged, is not an event beyond possibility.

The history of uterine adhesions, when completed, will probably demonstrate more fully than that of adhesions elsewhere, the laws of their diminution and disappearance. It is only necessary gradually to separate the united parts, or continually to move them upon one another, to secure the desired result. When adhesions are very firm and extensive, so that separation of the united parts, or their frequent motion upon one another, cannot take place, then the adhesions will be permanent, for the process of elongation and atrophy does not begin. Illustrations of this are probably more perfect in the pleura and pericardium,* and other regions, than the pelvis.

* I may here refer to a paper by Dr. Kirkes "On the rarity of pericardial adhesion in comparison with the frequency of pericarditis." To those acquainted with Dr. Kirkes' observations, I would say that, while he pays much attention to the "white spots" of the heart and to false membranes, I

Besides, it is a matter of course that when the adhesions are firm and extensive, and when motion of the adhering parts is slight, the process of destruction of the bands will be slow in proportion to these conditions, if it takes place at all. This circumstance may explain the comparative frequency of persistent adhesions of the tubes and ovaries, these parts being less subjected to movement than the uterus.*

Before leaving this subject, it is well worth while to direct attention to an important class of cases, in which processes similar to those just described have

consider only adhesions in this paper. Besides, while Dr. Kirkes says nothing of the removal of adhesions by atrophy, I attach to this atrophy the greatest importance in producing the disappearance or cure of adhesions, and I regard Dr. Kirkes' silence on this point as involving a grave omission. This paper is referred to by Paget in his work on Surgical Pathology, and is to be found in the *Medical Gazette*, new series, vol. x., 1850, p. 581.—See also remarks on the same subject by Professor Gairdner, in his paper on Pericarditis, *Edinburgh Medical Journal*, Feb. 1860.

* Speaking of the adhesions produced by ovaritis, M. Aran says, "May the adhesions which so fix it in an abnormal position disappear entirely? The belief is admissible, yet the facts which I have observed are little favourable to this opinion, and I have met with these adhesions in women above eighty years of age."—*Leçons Cliniques sur les Maladies de l'Utérus*, p. 594.

for their result not merely the atrophy and disappearance of bands producing cohesion of parts, but the disruption of fully-organised composite structures or organs, as the broad ligament, or Fallopian tube, or the pedicle of a fibrous tumour. These cases have been observed in the post-mortem theatre or the dissecting-room, and have been described by Rokitansky* and Turner,† to whose papers I refer the student. But I may quote Professor Turner's statement of one of Rokitansky's cases as specially pertinent to some of the observations in this paper. The left ovary, and part of the corresponding tube, had become adherent, and the uterus, as it grew in pregnancy, dragging, induced the separation of these parts from their natural connections.

"Æt. 39. Died from metrorrhagia three weeks after childbirth. Right ovary large, and containing a pale corpus luteum. Left tube a mere stump, with a free, conical, blind end. No trace of the left ovary in

* "Ueber Abschnürung der Tuben und Ovarien und über Strangulation der letzteren durch Achsendrehung."—*Allgem. Wiener Medizin. Zeitung*, Nos. 2, 3, 4. Jan. 1860.

† "On Separation and Transplantation of the Ovary, due to Atrophy of the Broad Ligament and Fallopian Tube; and on the Spontaneous Separation of sub-peritoneal fibrous tumours of the Uterus."—*Edinburgh Medical Journal*, vol. vi. p. 698, 1861.

its normal place, but lying somewhat to the right side of the floor of the recto-vaginal fossa, surrounded by pseudo-membrane, and fixed by it to the rectum, was a compact tuberous body, the size of a walnut, which, for the most part, consisted of a cyst, containing an opaque, brown, fatty pap, with shining epithelial lamellæ."

Lastly, I quote also from Turner some apposite remarks on the separation of fibrous tumours from the uterus:—"Should," says he, "a sub-peritoneal tumour be attacked by inflammation of its peritoneal investment, and contract adhesions to surrounding parts, it is then placed in a position favourable to become separated from the uterus. This would be especially liable to occur if it became connected to a viscus, such as the bladder or rectum, which is constantly undergoing changes both in size and position. The alternate dilatations and contractions of these viscera would necessarily exercise a considerable traction upon the tumour, which would tend to produce elongation of the pedicle; and ultimately, should the cause be sufficiently long in operation, complete detachment from the uterus. Even if the tumour were to connect itself to a fixed part, as the pubes, or other portion of the pelvic wall, and the uterus subsequently to become pregnant, the

growing uterus, gradually rising into the abdomen, might exercise such an amount of traction upon the pedicle as to attenuate it even to complete separation. The entanglement of the tumour between the coils of small intestine which so frequently hang down into the pelvic cavity, even although no distinct attachments took place between them, would, during the peristaltic movements of the gut, exercise a certain amount of dragging upon it, especially if at the same time its pedicle became twisted. In those cases in which the tumours attain great size, or great density through calcareous degeneration, even without becoming connected to adjacent parts, their own weight might probably assist in producing attenuation of the pedicle; but in estimating this as a cause productive of separation, we must always bear in mind the constant and reciprocal pressure exercised upon each other by the walls and contents of the entire abdominal cavity."

CHAPTER XI.

DIAGNOSIS.

THE diagnosis in the diseases under discussion must be divided into two parts; first, the diagnosis of the various affections treated of, each from the others; second, the diagnosis of these various diseases, each from other diseases.

The first part of the diagnosis—that of each of the diseases treated of from the others treated of in this work — comes first to be described; and the first remark to make is, that this is still in a very unsatisfactory state. While the very existence of the various affections is still, in some quarters at least, regarded as an open question, there must surely be at least difficulty of diagnosis to justify doubt. Some respected authors, among whom I may mention Thomas, hold that the diagnosis should always be made. Speaking of parametritis and perimetritis, he says—"They may usually be readily differentiated from each other, and a neglect of such thorough diagnosis is as culpable as a similar want of care in determining between pericarditis and

endocarditis."* This passage goes, in my opinion, much too far. It seems to imply that endocarditis and pericarditis can always be easily differentiated from one another, and that parametritis and perimetritis should always be so too. This we cannot at present admit; and should there be indecision in the majority of cases for some time to come, we should be disposed to anything rather than regarding the undecided practitioner as culpable.

We shall not attempt to establish any diagnostic indications as sufficient to distinguish encysted perimetric serous collections from perimetric purulent collections, believing that at present no such distinction can be made without quite settling the difficulty, by bringing to light the fluid distending the sac.

But we shall attempt to make out some diagnosis between perimetric abscess and parametric abscess, and also between adhesive perimetritis and parametric phlegmon. Before doing so, we must add that, in the present state of therapeutics, we do not see that the diagnosis is of the highest importance. But though the signs and symptoms of pelvic inflammation, as at present known, are a good guide to the use of our therapeutic appliances, it is imperative

* *Diseases of Women*, p. 366.

on gynækologists to aim at more exact pathological knowledge, in this subject, as in every other.

The diagnosis between perimetric and parametric inflammation and abscess has been summarised by Thomas. We quote his differentiation, as he calls it:—

"*Periuterine Cellulitis.*	*Pelvic Peritonitis.*
"1. Tumour easily reached; generally felt in broad ligaments, and may be felt above pelvic brim.	1. Tumour very high, only in vaginal cul-de-sac; does not extend above superior strait.
2. Marked tendency to suppuration.	2. Suppuration rare.
3. Abdominal tenderness chiefly over iliac fossæ.	3. Abdominal tenderness excessive above brim of pelvis.
4. Tumefaction generally noticed laterally in the pelvis.	4. Generally noticed near or upon the median line.
5. No constitutional signs of peritonitis present.	5. Constitutional signs of peritonitis present.
6. Tendency to monthly relapses not marked.	6. Tendency to relapse every month very marked.
7. Retraction of thigh not rare.	7. Retraction of thigh never occurs.
8. Pain severe and steady.	8. Pain excessive, and often paroxysmal.
9. Facies not much altered.	9. Facies very anxious.

10. Nausea and vomiting not excessive.	10. Nausea and vomiting often excessive.
11. Does not necessarily displace uterus.	11. Always displaces uterus.
12. Not accompanied by tympanites.	12. Always accompanied by tympanites.
13. Uterus fixed to limited extent.	13. Uterus immovable on all sides."*

The quotation just made will serve to show the difficulty involved in the diagnosis attempted; for, in the whole list of distinctions, there is scarcely more than one which is not a mere general assertion, and most of them cannot be brought to the bedside and applied to an individual case. Further, for my own part, I am disposed to contest most of them entirely; while there is not one which I could assent to without several important conditions superadded.

I shall, in the meantime, only say that we are indebted to Thomas for even attempting the difficult task, and that I shall not attempt to supplant his diagnosis by one of my own. I have often felt satisfied, from careful observation of a case, at many stages of its progress, that I could make a good guess as to the perimetric or parametric nature of an abscess. The indications, that Thomas lays down, show the kind of indications that I have relied upon. I

* *Diseases of Women*, p. 375.

am not, however, prepared to state them categorically.

I have given Thomas's precise differentiation before the more careful one of Bernutz, from whose ideas Thomas has evidently gathered much. The subject appears to me to be sufficiently important to demand a citation of Bernutz, whose authority is justly great, and who evidently enters upon the point after much consideration. Speaking of the tumours of pelvi-peritonitis, he says*—"As a general rule, these tumours can be felt only by vaginal examination: they do not rise sufficiently to be felt in the iliac fossæ, where only an indistinct fulness can be made out. At a later period, when they are increased in size by inflammatory attacks, they present on their vaginal surface more or less distinct prominences, which are hard, and may sometimes be felt projecting in the hypogastric region. By combining the two modes of examination, internal and external, we are able to estimate the thickness, the absence of fluctuation, and the almost fibro-cartilaginous hardness of these tumours. When, as is most frequently the case, they are placed laterally, they seem to form a kind of latero-posterior wing to the uterus. They rarely pass the superior limit of the pelvis; but when they do, it

* *Diseases of Women*, vol. ii. p. 84.

is seldom more than two or three fingers' width above the horizontal ramus of the pubes, from which they are separated by a slight interval. This last is an important point, because the intracavitar seat of these tumours is one of the elements in the differential diagnosis of phlegmons of the broad ligaments, which tend, on the contrary, in their progress, to invade the cellular tissue of the iliac fossa; so that the tumour which they form, when it emerges from the pelvis, is united to the abdominal wall itself. It is the more necessary to insist on this intracavitar position of peritoneal indurations, and on the mobility of the abdominal walls which glide over them, because phlegmons of the broad ligaments and pelvi-peritonitis not only often co-exist, but because they both sometimes, under the influence of the same causes, experience inflammatory exacerbations, which are so common in pelvi-peritonitis as almost to constitute one of its fundamental characters."

In another place* Bernutz returns to the subject: —"Inflammations," says he, "of the cellular tissue are in general easily distinguished from pelvi-peritonitis; in most cases by the different characters of the swelling to which these two affections give rise; and in those rare cases where the swelling presents,

* *Diseases of Women*, vol. ii. p. 147.

perhaps, some analogous characters, then, by the marked difference in their symptoms, which I shall now consider.

"In the first place, when the pelvi-peritonitis is so moderate as to give rise to symptoms analogous to those of phlegmon, the swelling, which is clearly appreciable in one or more of the vaginal culs-de-sac, does not rise above the brim of the pelvis, nor does it reach yet to either iliac fossa. When it is distinguishable in the hypogastrium, which is a very rare occurrence, it is only at the last, when it has increased by successive attacks; and this does not happen with phlegmons. The swellings to which these latter give rise, scarcely within reach, as they are, of the vagina, from their being flattened against the horizontal processes of the pubes, become, on the contrary, appreciable in the hypogastrium almost from the first; that is to say, as soon as the inflammation has extended from the neighbouring cellular tissue to that of the iliac fossa. They form in the abdomen, but not in the vagina, a greater or less swelling, according as the cellular tissue of the abdomen or psoas muscle is involved. Hence, as regards situation, consistence, shape, and progress, there is a marked difference in the two cases, which I need not farther particularise. I must, however, as a matter of practical importance,

point out that suppuration is not infrequent in phlegmons, whereas it is very rare in pelvi-peritonitis.

"Purulent, or sero-adhesive pelvi-peritonitis, when it is sufficiently severe to give rise in a few days to a swelling, similar to that of a phlegmon—that is to say, one cognisable, per vaginam, as well as by abdominal palpation in the iliac fossa—is more easily distinguished from a phlegmon than that we have just considered. The diagnosis rests upon the existence of the general symptoms of peritonitis in the one case, as compared with those of inflammation of the cellular tissue in the other. These symptoms are generally well marked, and are now pretty well understood. Moreover, the tumours themselves possess very distinctive features; the intra-abdominal site of the peritoneal, distinguishes them from phlegmons of the superficial iliac fossæ; and where the deeper iliac region is involved, there is generally retraction of the thigh, which does not exist in pelvi-peritonitis. In the latter case, too, there is a want of definition in the swelling felt in the iliac fossa, which involves also part of the middle hypogastric region. Where the uterus, from being more prominent than usual, can be readily felt, the middle and lower part of the tumour, the base of which is in the vagina, behind the uterus, forms a retro-uterine swelling, such as is

not met with in phlegmons. Lastly, the elastic sort of resistance of this swelling, which at first presents a kind of obscure fluctuation, a feeling very difficult to describe, but peculiar to tumours containing fluid, differs from the solid swellings of true phlegmons. Phlegmons of the iliac fossæ are very rare in the non-pregnant; and their diagnosis is far easier at the bedside than the length of the discussion to which I have been forced would lead one to suppose.

"Unfortunately, it is not always thus easy after parturition; for, when the symptoms begin within a few days after labour, the diagnosis is then often very difficult; the signs, both of phlegmons and of pelvi-peritonitis, are, under these circumstances, obscured by those of the puerperal fever, to which they are subordinate. We can thus easily understand how the accoucheurs of the last century may have classed, under one head, these two affections; especially as both may give rise to the formation of pus in the shape of an abscess.

"The differential diagnosis of these two affections, where the puerperal fever is uniform and of moderate severity, approximates that of the non-pregnant state. The elements of this diagnosis are; *first*, the initial abdominal pain is remote from the labour in phlegmons, near to it in pelvi-peritonitis; *secondly*, in the

former, the febrile reaction exceeds in severity the disturbance of the digestive function, while the reverse obtains in the case of the latter; *thirdly*, the different characters of the two swellings. Thus, in pelvi-peritonitis the inflammation comes on generally within ten days after delivery, while in phlegmon eighteen or twenty days will elapse, the case up to that time being, or appearing to be, normal. In puerperal pelvi-peritonitis, the initial stage is generally ushered in by a rigor; in phlegmon this is wanting. The pain, though in both it is similar as regards its situation, its radiations, its being equally affected by pressure and movement, differs in that, in serous inflammation, it is acute, sharp, resembling that of pleurisy; while, in inflammation of the cellular issue, it is dull, occasionally lancinating, like that of the first stage of abscess. Lastly, in pelvi-peritonitis the expression is pinched, there is greater prostration, and more febrile disturbance. These last, however, are sometimes not very well marked.

"The swellings symptomatic of pelvi-peritonitis are distinguished from those produced by inflammation of the broad ligaments by their situation, by the deviations which they impress upon the uterus, and by their physical characters. * * *

"The swelling of a phlegmon, which is dull only

on very superficial percussion, has its upper border so clearly defined, that, when the extreme sensibility has passed away, we can push the abdominal wall behind it, as it were. In peritonitis, on the contrary, the swelling is not parietal; it rises out of the pelvis, escapes the middle line, and carries the fundus uteri forwards, and to the healthy side. Hence, from the different situations of these tumours, arise marked differences in their physical characters; inasmuch as, per vaginam, peritonitic swellings have at first very much the same consistence as phlegmons; while that part which emerges into the abdomen never exhibits the characters which are common to the iliac swellings of true phlegmons. These differential characters become more marked as the tumour progresses; in the one the growth is regular, though it varies according as it terminates by resolution, or by suppuration, or by induration; while, in the other, it takes a course which would appear abnormal for a phlegmon; because, in cases of sero-adhesive peritonitis, the inflammatory process seems to be perpetuated by constantly-recurring attacks of an acute form, determined by slight causes."

In now closing this long quotation from Bernutz, I shall merely ask the critical reader to consider it, first as it stands, and secondly as confirmed or not by

his experience; and I am sure he will agree with me that it affords no grounds for a good diagnosis, and that it is too hypothetical in its whole statements for bedside use in any difficulty. Did I possess the means of a good diagnosis between parametritis and perimetritis, it would be probably susceptible of being stated briefly, not in a long discourse; and, in that case, I would have abstained from treating, in this book, the two affections conjointly, as I have been forced by my ignorance to do, to a great extent. There appears no way out of the difficulties, but careful clinical research, and the illustration that may be derived from like attempts to solve like difficulties in the disease called pelvic hæmatocele, and in others.

"The distinction," says Marchal, "between intra-peritoneal abscess, the consequence of partial peritonitis, and circumscribed abscess of the subperitoneal cellular tissue, as it ordinarily presents itself, is difficult. It is not only difficult, often it will be impossible."*

The distinction of perimetric adhesions of slight extent from the common small parametric phlegmon is frequently well made out, in cases under continuous close observation. In the perimetritic case there is tenderness and then fixation, and there may be very

* *Des Abcès Phlegmoneux Intrapelviens*, p. 114.

little surrounding swelling, and the fixed mass has a certain ruggedness of outline when felt per vaginam. In the parametric phlegmon there is swelling, with tenderness and fixation; and while the swelling may feel like a mass, it has a rounded character, a feeling of what Frenchmen call *renitence*, and an ill-defined outline.

I have already (see page 126) made remarks on the uncertainty of the diagnosis of suppuration. Though the signs of the supervention of suppuration—increased pain, rigors, perspirations—are valuable, and often indicate truly, yet they are not always present, and when present, do not certainly show what they are believed to point to.

If the attempted distinction of the various pelvic inflammations during life is very unsatisfactory, the reader may expect the author to be more full and precise regarding the diagnosis from other diseases. If so, he is doomed to disappointment; for to enter upon this subject with any fulness is quite beyond the object of the work. Indeed, long disquisitions on diagnosis of this kind are generally, in the main, mere concurrent repetitions of the signs and symptoms of the two diseases compared. To give the diagnosis, from every disease that may turn up, would lead me into a discussion of these diseases, and I shall not

attempt it. I may, however, state a few points of importance; and I shall premise that, for a good diagnosis, there are wanted, common sense, a knowledge of and experience in disease, and a watchfulness against already known sources of error.

The existence of fæcal infarction is often a cause of mistake. A refined diagnosis should never be attempted without previous thorough evacuation of the rectum and sigmoid flexure.

The diagnosis from pregnancy is fully described in all works entering upon the signs and symptoms of that state.

The diagnosis from hæmatocele is sometimes impossible. Yet, in most cases of large hæmatocele, it can be done with considerable assurance, as experience has shown me. The grounds of the diagnosis are—the suddenness of the invasion of the hæmorrhagic disease, with its symptoms of pain and feverish excitement; the recent diminution or suppression of a metrorrhagia; the evidences of anæmia.

The diagnosis from cancer, whether of the uterus or of the pelvic glands, is generally easy, and done at once. But this is not always the case. Continued observation is not required by the experienced practitioner, but will at last bring certainty to the most ignorant.

Diagnosis from fibrous tumour is sometimes difficult, especially if the fibroid is fixed. The exploring-needle, if urged into the centre of the tumour, may remove the difficulty, so far as abscess is concerned; but this proceeding will not diagnose a mass of adherent viscera from a fibroid.

Diagnosis from an inflamed fibroid is sometimes difficult, especially as the use of the exploring-needle may be thought inexpedient. I have made this mistake of taking an inflamed fibroid for a pelvic abscess. A woman menstruating stood in wet ground for a long time in a cold night seeing fireworks; she was taken with severe pelvic inflammation. I diagnosed pelvic abscess. It turned out to be an inflamed fibrous tumour, which was temporarily fixed in the pelvis.

Diagnosis from extrauterine conception may be very difficult.

Diagnosis of a fixed adherent ovary from an abscess may be difficult, or almost impossible. Sometimes the history of the case makes it clear.

Diagnosis from a small fixed ovarian cyst is sometimes very difficult, especially as, in this case, exploratory puncture may be considered inexpedient.

At this point I should, in a natural order, advance to the Prognosis; but I shall, on the contrary, omit all regular consideration of the subject; for I have

nothing to add to such scanty means of foretelling as may be derived from various statements given in the parts of this work devoted to the history of the progress of the diseases described.

In thus, as it were, evading the composition of a chapter on Prognostics, I am conscious of a feeling akin to shame; knowing that, while the promoters of medical science have nought or little to say on the prognosis, they may be contributing to advance medical science, they may be hastening on a better time, but they have yet the fruit and crown of their labours to look for; they have yet much to expect as the result for mankind of their work. Medical research has, for its great and ultimate objects, prophylaxis, prognosis, and treatment; and I know not which of these to consider the greatest.

CHAPTER XII.

TREATMENT.

"Above all price of wealth
The Body's Jewel—not for minds profane,
Or hands, to tamper with in practice vain—
Like to a Woman's Virtue is Man's Health.
A heavenly gift within a holy shrine!
To be approach'd and touch'd with serious fear,
By hands made pure, and hearts of faith severe,
Ev'n as the Priesthood of the ONE divine."—HOOD.

IN giving a short statement of my views as to the treatment of perimetritis and parametritis, I wish to avoid even the naming of numerous remedies. I shall confine myself almost entirely to a brief account of appliances which I myself resort to, which have received the sanction of generations of practitioners, and whose value has been willingly acknowledged by innumerable patients. Such testimony to the value of remedies, founded as it is on numerous observations, may be said, supposing it to have a real foundation, to bring their description within the domain of science. Were it not so, I should spurn them, if not from use in practice (though that is always becoming more limited), at least from my pages.*

* Although the profession of medicine can boast of many great names, it has still to find a Luther or a Newton. The

In our own day, as in older times, we may justly estimate an author's ignorance of a disease, by the amount and variety of the therapeutic means he recommends. But, if an Archigenes may be excused on the plea of ignorance, not only of medical science but of scientific methods, a modern cannot be allowed thus to conceal his shallowness or cloak his sins. An ancient may, without stain on his fame, recommend a farrago of medicines for one disease; but, a modern who does so, is as foolish or as false as he who has one medicine for all diseases.

When different physicians have, after long trials, all fixed on quite different remedies for the same

lamentable and baneful, because paramount, influence of tradition and authority in practical medicine contributes powerfully to make it remarkable among the sciences for its imperfect development and slowness of progress. But though gynækology exhibits at present a very rapid and active growth of theories and treatments worthy of the dark ages, I think the modern history of practical medicine, generally, shows that the time is ripening for an iconoclast; and if it be so, he will soon appear. He will come in vain if the popular mind is not prepared to receive him.

Although our knowledge of the diseases of women is in the state described, the same cannot be said against obstetrics. Every student will recognise the utterly different methods in which these two departments of medicine are studied. For this we are indebted chiefly to William Hunter; also, I believe, to Boër.

disease, it is a safe conclusion that none of them is of much use. The next clever and unscrupulous man will unship them, and bring in still another new cure in triumph.

These general remarks while they have no special bearing on the proposed treatment of perimetritis and parametritis, appear to me to have a very special bearing on many departments of the therapeutics of the diseases of women. Foolish and unscrupulous men have a peculiar tendency, easily accounted for, to cultivate the diseases of the sexual organs. And the history of the progress of gynækology in our day would, if truly given, cast as much disgrace on some individuals as honour upon others. Fortunately, its worst side will probably never be thoroughly exposed; for the fittest of fates—oblivion—awaits much that is now vaunted; the discovery and diligent treatment of diseases which do not exist; the use of treatments the danger of which is greater than that of the diseases; the recommendation of remedies and operations regarding which little more is known than their names; the facile juggling with remedies of which it is the one sufficient recommendation to have a new name; the systematic concealment of disasters resulting from such treatments. These evils, rife in our day, should be forgotten, and medical men should combine to bring the intellect into, and expel the imagination from,

so noble and so important a subject as therapeutics. If a labourer in gynækology discovers a single new fact, whether pathological or therapeutic, or establishes a new principle, he secures something for ever for science and for humanity. In gynækology great progress is certainly being made; but "blinding dust" is the chief result of the labours of many of its most notorious if not famous promoters.

It forms no part of my purpose in the present treatise to describe such parts of the treatment of perimetritis and of parametritis as are common to these diseases with inflammation and abscess elsewhere. I shall therefore confine myself to some special remarks on poulticing, bleeding, blistering, and incision. I shall not enter upon the use of mercury and of iodine, in these inflammations, but shall dismiss these subjects, now, with one or two remarks. The first is, that I have not any very well-defined rules for the application of these remedies, nor do I know of anything valuable on the subject, in the works of writers on the treatment of such diseases as are now under consideration. Though they are old and much-used remedies, confidence in them seems rather to diminish than increase. At one time, they were described as potent to remove adhesions, and I have known them prescribed with this view; but I am sure they have no influence of this kind,

whatever. I am sure, indeed, that among our medicinal resources there is none that can, with any good reason, be alleged to hasten the removal of, or in any way modify, adhesion. To obtain such medicinal agents is an object to be desired intensely, for, in the last part of the treatment of perimetritis, nothing would be more important than to destroy adhesions, and at present we must simply trust to nature bringing into play such mechanical and vital agencies as will effect the desired result.

Though I have no great confidence in the preparations of mercury and of iodine, yet I frequently use them, wishing my patients to have every possible benefit that treatment may give.

The preparations of mercury I give in the early stage of perimetritis, when there are symptoms of acute inflammatory action, or at any time, when, with such symptoms, there comes what we call a relapse; the French, a *redoublement*. I generally administer mercury along with opium, either in the form of grey powder combined with Dover's powder, or of blue pill combined with solid opium. I give the medicine in small doses, frequently repeated, and I urge its use only so far as to keep the mouth showing the smallest amount of distinct hydrargyrismus. The above-named preparations of mercury I prefer to the famous calomel and opium pill of a passing generation of

medical men—a remedy, which, I think, presents no advantages over those named, and, besides, is much less manageable, and almost invariably, if used even for a short time, causes severe purging, a condition not favourable to the benign progress of a perimetritis. The use of the mercurial should, I think, be confined to the period of acute symptoms, and these are, quick and often somewhat hard pulse, heat of skin, acute local tenderness, and generally acute pain.

The use of the preparations of iodine needs no such nice clinical discrimination as that of mercury, for the drug is not, in any sense, a dangerous weapon, if used with the most ordinary care. I frequently administer it in the chronic or ulterior stages of perimetritis or parametritis, supposing it to have some absorbent virtues available against the persistent inflammatory indurations in the pelvis.

Poulticing.

Poulticing, or the application of combined heat and moisture, is not only a valuable agent in controlling inflammatory action; its use is indicated also by the circumstance that it affords the patient great comfort. There are many ways of carrying out the treatment, familiar to all practitioners. The whole

lower half of the belly may be subjected to the operation. At first, and during the acute stage of the disease, the poulticing should be constant, night and day; it should likewise be so, if matter offers to point externally. As the case advances towards cure, the poulticing may be reduced in time to an hour or two at night, or twice daily, or otherwise, according to circumstances. In some cases, when the disease is slight or chronic, the warm sitz-bath may be used, being itself a modified kind of poulticing.

Bleeding.

General bloodletting is, I believe, as generally given up by the profession as it is disused by myself. But that cases may occur in which it is advisable to resort to it, I see no good reason to deny. Local bleeding is of very great value in perimetritis and parametritis. It is generally effected by leeching. A number, varying according to circumstances, may be applied over either groin or both groins, to the perineum or to the uterus.

Leeching the groins is scarcely a direct form of local bloodletting, for the only communication between these parts and the uterus is through a series of small anastomoses of the epigastric vessels, with spermatic twigs descending to the inguinal canal with the round ligament, and deriving their origin

from the ovarian vessels, which also send branches into the uterus to anastomose with ramifications of the uterine branch of the internal iliac. The application of leeches to the perineum or vagina may have a much more direct influence on the womb, for there are numerous anastomoses of the uterine with the vaginal vessels, and of these last with the inferior hemorrhoidal and other branches of the pudic. More distant bloodletting, in various parts of the leg or foot, have, in former times, been recommended as having special influence over the womb. The profession, in this country at least, has lost all faith in this treatment, as well as in the corresponding doctrine regarding venesection of special veins of the upper extremity in disorders of the head. But enough remains in the well-known, and, it appears to me, well-founded belief in the value and efficacy of the pediluvium in menstrual affections, to prevent us from regarding these therapeutics as absurd; and although not dreamt of in our modern and too self-sufficient medical philosophy, yet laws of sympathy between distant parts may be discovered, which will explain and inculcate some such remedial measures which now appear to be unreasonable.

In describing what appears to us the best method of using this valuable remedy, we shall take opportunity to compare it with plans at present in use.

This will not only give point to our argument, but perhaps be serviceable in finally disposing of those modes of local bloodletting now too frequently employed, and which are certainly sometimes very injurious both in their local and general effects.

When a local bloodletting is desired, it is of course most effectually performed when the fluid is withdrawn from the affected part. Failing that, the parts nearest and most intimately connected by vascular ramifications with the inflamed part are the best suited for the purpose. It may be affirmed, that according as these conditions are fulfilled, the bleeding will be more effectual, especially if a moderate quantity only be abstracted. When the patient is in such a condition of health that a few ounces of blood, saved or lost, is not of great importance, then it may be, in that respect, comparatively unimportant whether the blood be drawn from the groins, perineum, vagina, or cervix uteri. But in many cases, the saving or losing of a few ounces of blood is a matter of moment. The depraved state of health and anæmic condition of some patients is sometimes so great as to preclude the use of the remedy altogether. It is often incumbent on us, therefore, to have the bleeding as direct as possible. A very common plan is to insert into the vagina a tube full of leeches, which are allowed to fix upon

the cervix uteri or vagina, as chance directs. Of course the area of vaginal surface being far greater than that of the cervix uteri, ensures the fixing of most of the leeches upon the former. This leeching of the vagina is not the most suitable, because, not being the most direct, it necessitates the withdrawal of more blood than is necessary. The bleeding from the vaginal leech-bites is also apt to be profuse and unmanageable, and thus injurious. The part to which the leeches should be applied is the uterine cervix, because it is the nearest to, if not itself actually part of, the inflamed tissues.

Speaking of the sero-adhesive variety of pelvi-peritonitis, Bernutz,* a great authority, says—"It is rare for the symptoms of this form to resemble in severity those of ordinary peritonitis; and it is seldom necessary, therefore, to resort to a very antiphlogistic plan of treatment. But, unfortunately, after the first application of leeches, the pain often continues just as severely, and we may be obliged to repeat them, though in less number. In this variety we may apply them direct to the cervix, which is, I believe, by far the best plan for the application of leeches in cases of pelvi-peritonitis. If, however, digital examination gives much pain

* *Diseases of Women*, vol. ii. p. 161.

when the uterus itself is touched, then it is best to avoid the use of the speculum. I believe that four leeches applied to the cervix are as good as three times that number applied externally; for, not only is it nearest to the seat of inflammation, but the relief to all the genital organs is greater. I do not think even scarification can be compared with leeches in point of utility; the amount of blood drawn off is, comparatively speaking, quite insignificant; and there is the possibility of serious consequences resulting."

The leeching-tubes in ordinary use may be said to be applied blindly; that is, the operator has it not in his power to effect the leeching of any particular part, the instrument not admitting of his using his eyes to direct its open end. In order that the leeches may be accurately applied upon the os uteri itself, it is necessary to expose it with a speculum whose end encircles and receives the cervix. Upon this part the leeches are applied, and, if necessary, retained by a dossil of lint. When they are filled and separate, they glide easily out of the tube and are removed. By the use of the speculum for this purpose, two evils attendant upon the use of the ordinary leech-tube are avoided; for with the latter it is sometimes impossible to prevent the leeches

attaching themselves low down on the vagina, or even on the vulva, where they cause pain and discomfort; moreover, the tubes only introduce the leeches; and these, when filled, occasionally do not come readily away, thus inducing some tedious delay or trouble in seizing their glabrous and wriggling bodies to pull them out.

A leech-bite on the external integument is, I believe, calculated generally as yielding less than an ounce of blood. When such are on the cervix uteri or vagina, they certainly yield on an average more; the hemorrhage, indeed, from vaginal leech-bites is sometimes alarming in extent, and that far more frequently than from the outer skin. This may be accounted for by the greater vascularity, moistness, and heat of the internal parts.

The unimpregnated uterus weighs about an ounce, and has a pyriform shape, with a dimension of nearly three inches in its longest diameter. To disengorge the vessels of such an organ, and of its neighbourhood, a small quantity of blood will be required; to maintain the disengorged state by continued bleeding for the necessary time, a minute stream of blood will be effectual. For these reasons, and on account of the patient's general condition being often the reverse of full-blooded, especially

in obstinate cases, the use of many leeches is much to be discommended. In cases which bleed copiously, three or four leeches, and in any, five or six, will be sufficient.

Continued disengorgement is procured by the oozing, which continues for many hours, and sometimes even for days, after leeching. If it is desired to encourage and increase it, this can be done by warm applications to the vulva and hypogastrium.

To derive all possible advantage from local bloodletting of the uterus, it is necessary that the female should remain for a considerable time, say one or two days after commencing the operation, confined to the horizontal position.

A plan at present frequently pursued is, after applying a large number of leeches, to place the woman in the erect position, so as to sit over or in hot water. Such a proceeding frequently causes so great a discharge of blood as not only induces fainting at the time, but prostrates the woman's general health for an indefinite period afterwards. Besides, the erect position leads to the renewed overfilling of the vessels disengorged by the leeching, and sometimes produces painful feelings of prolapsus of the parts relaxed by the operation.

In the treatment of inflammatory affections of the

uterus and its appendages, it is well known that an extraordinary difficulty arises from the recurrence of menstruation. This function is accompanied by such vascular excitement and engorgement of the womb, as has a great tendency to efface the beneficial results of the antiphlogistic treatment in the preceding interval. In many cases, indeed, there is much suffering attendant on menstruation, and, generally, for some time after it, the affection is aggravated. In these circumstances, it is frequently found useful to recur to the abstraction of small quantities of blood from the uterus in the interval between the menstrual periods, a circumstance which affords an additional reason for keeping the quantity of blood abstracted within narrow limits.

A question of great importance, and sometimes of difficulty, in the cases where this remedy is recommended, has always to be solved, namely, When is the operation to be performed? It appears to us, that in regard to this, no very definite rule can be laid down. In some cases the leeches are applied before the monthly period, in others just after it.

Blistering.

When the acute stage of a perimetritis or parametritis is past, and the disease is not progressing

favourably, or quickly diminishing, blistering is very useful. Admitting, as I do, the elegance and varied utility of new methods of blistering, I yet prefer to all, in the present disease, the old-fashioned cantharides plaster. By it, better than by any other means known to me, we can secure enough of irritation—not too much and not too little. No doubt there is the admitted danger of strangury; but this does not always occur; and the use of diluents and nitre, in small repeated doses, prevents it, or modifies its violence.

In many cases this remedy has appeared to me of evident and very great value. I have especially admired its action when chronic parametritic induration was near the surface, as in the region of the inguinal canal, or near it. It is a frequently recurring experience, in my hospital practice, to find an old case of the kind described in this treatise, rapidly cured by mere confinement to bed. Though I have not given this important item of treatment separate consideration, it demands special attention. It is invaluable. When there is any ground for guessing that progress will be slow, or when it proves to be slow, then blistering is often all that is required in order to secure rapid improvement. Under circumstances like those just alluded to, should there still

be no progress, then it is a good plan to keep a small part of the blister permanently open, by dressing with savin ointment, or the beautifully-prepared French plasters of Albespeyres.

Opening of Abscess.

I find authors naturally expending many words in the discussion of this important part of the treatment. Some favour its frequent use; others condemn it except as a rarely useful treatment. It appears to me that abscess from perimetric or parametric disease should be treated just as abscess elsewhere. Most such abscesses open spontaneously when they are mature. There should, in my opinion, be no haste to open an abscess, or very rarely so, until it is mature. By this term *mature* I wish to imply the collection of the matter in a sac which is full or renitent, whose walls are moderately thin and soft, and not very tender or inflamed. In my college days, I was taught in ordinary surgical cases, to plunge the knife in any safe direction, in order to evacuate even the smallest quantity of matter, and this without regard to the maturation of the abscess. I now know that this mode of proceeding is very rarely not baneful. The operator, in acting in the bad way alluded to, has an air of activity and boldness, but his practice does not

secure the best results for his patients. He acts prematurely, excites inflammation by his knife, and evacuates a small quantity of matter from a part in which the inflammatory process has not yet exhausted itself.

While, then, most abscesses spontaneously evacuate themselves, some demand operative interference. The operative procedure, when the evacuation takes place through the skin, demands no special description. When an abscess is opened artificially internally, the operation is generally performed per vaginam. But it is not rare to find matter pointing in the rectum, and then the abscess is opened in that part. The operation may be done by a Pouteau's trocar or by a guarded bistoury, having only a small extent of exposed cutting edge near the point. Many bistouries have been made specially for this purpose. I generally use a common bistoury, guarded by lint rolled around it, as required. In my early practice I employed Pouteau's trocar for this operation, regarding its use as safer than that of the knife. I now almost always use the knife, because by means of it I secure free and complete evacuation of the abscess at once, and, passing the finger into the pyogenic cavity, can acquire some extension of my knowledge of the case. The opening should be made as near the median line as may be.

It is most frequently made in the median line, and just behind the cervix uteri. The point selected should be first felt, to discover, with a view to avoidance, any artery pulsating where the incision is proposed. In operating, the right index-finger follows the cutting-instrument, which last is withdrawn as soon as the finger gains admission into the sac. From this mode of opening pelvic abscess by the knife I have never had any serious bad result. In a large number of cases, I have had only one of alarming hemorrhage. It occurred in a virgin, in whom I opened a large pelvic abscess behind and to the left of the uterus. The bleeding did not come on at once, but after I had left the patient; it was checked by a plug; the patient did well.

The finger, passed into an abscess after opening, should be gently moved, and care should be taken to avoid the breaking up of dissepiments, a proceeding which some have even recommended.*

It is very difficult to state the classes of cases, in which opening artificially should be practised. Some have said—operate in those cases where you have reason to fear bursting into the peritoneum. This is a thoroughly unpractical and foolish kind of talk, for there is no such class of cases known, and the authors

* *Medical Times and Gazette*, vol. xix. (1859), p. 106.

referred to give us no idea of what the signs of this danger are. Other authors, as Scanzoni,* recommend artificial opening only when the abscess has become quite superficial. This is quite intelligible, and the practice may be of some little use. But this advice is certainly not comprehensive enough. There are many cases which demand opening, when the matter is not near any surface.

Old pelvic abscesses demand even boldness in operating. Among such may be placed the abscesses, one on each side of the womb, in a case already referred to, in which they were taken for fibrous tumours by experienced and well-known practitioners in the diseases of women. In this case, I opened both abscesses by Pouteau's trocar, and the result was great assuagement of the patient's sufferings, not cure. I have repeatedly operated in cases where I knew the abscesses were several years old; and in such cases, sometimes more than once; and I have never had reason to doubt the propriety of the treatment.

But these are not the only cases that appear to me to demand operative interference, and I find it difficult to do more than assert the propriety of it in pelvic abscess, as in any other surgical case. If matter

* *Lehrbuch der Krankheiten der weibl. Sexualorgane*, iv. Auflage. Bd. ii. S. 31.

is certainly formed in considerable quantity, and has no vent; if the abscess is mature; then the surgeon should look forward to early artificial evacuation. This at least is the practice I have always followed and now recommend. I do so, distinctly recognising the truth of West's opinion that "there are few points of practice concerning which there is so general an agreement as this of the inexpediency of early puncture of these collections of matter." Dr. West adds pertinently, "Bernutz accepts the principle; Aran insists on it more strongly, and observes—'There is no evidence of the possibility of preventing, by the artificial opening of these purulent collections, the formation of spontaneous openings in other situations, and especially into the peritoneal cavity. There are, on the contrary, many observations on record of the occurrence of these perforations, sometimes on the very day, sometimes several days after the puncture of the abscess.' Becquerel expresses the same opinion still more decidedly, and lays down the rule that 'the abscess is never to be opened, even though its apparent pointing in one situation should seem to invite interference.'"* Of course, I regard Becquerel's advice as too exclusive.

* *Diseases of Women*, 3d edition, p. 442.

CHAPTER XIII.

(APPENDIX.)

PELVIC AREOLAR INFLAMMATION AND SLOUGHING.

THE following case I describe as an appendix to the history of perimetritis and parametritis.

It is one in which, after a tedious history of perimetritis following delivery, and which eventually ended in at least one large collection of pus, an extensive sloughing of cellular tissue in the lower part of the pelvic cavity took place, the locality being remote from the pre-existent inflammation, which continued long after the alarm produced by the sloughing had passed. This is not a case of mere sloughing of some cellular or muscular tissue in an abscess. It is, indeed, one of a class of cases of great interest, which has been described in the male; but of which I know of not a single other example in the female. The *Lancet*, some years ago, contained a brief notice of some apposite clinical remarks on this subject made by Mr. Paget, in St. Bartholomew's Hospital.* He there pointed out that some of the cases of acute inflamma-

* Vol. ii. for 1865, p. 482.

tion and sloughing of the scrotum and adjacent tissues, which are commonly ascribed to infiltration of urine, are not connected with it, or with any other affection of the urinary organs, but are examples of the same disease as, in other parts, we call phlegmonous erysipelas, or diffuse inflammation of cellular tissue. Now while, in the case to be narrated, the appearances could not but suggest the idea that urinary infiltration was the cause of the disease, no sufficient reason could be found for seriously entertaining the notion. The bladder, in all its functions, was undisturbed during its progress. Some misconception may possibly arise from the analogies of the affection suggested by Mr. Paget, if I do not point out that, in my case, the cellular tissue affected was greatly swollen up, by an effusion into the areolæ, of ichor or dirty-brownish serum, and that this, as well as death of the large mass of cellular tissue, took place before any noticeable suppuration occurred. Profuse suppuration followed the sloughing, and accompanied the slow process of separation and discharge of the gangrenous masses.

The report of Mr. Paget's case, and remarks, is given in the *Lancet* in the following words :—

"On the 20th of last September, we saw a man, named George B., forty-six years of age, a carman by

occupation, placed on the operating-table. His scrotum and pelvis were greatly swollen, œdematous, and of a dull-greenish colour. The perineum was not involved. He was much collapsed.

"Before resorting to any operative procedure, Mr. Paget directed especial attention to the patient's appearance. It so closely resembled, he said, the effects of infiltration of urine from rupture of the urethra, that it was difficult at first sight to imagine that this lesion was not present. Against this view, however, was the man's history. It seemed that the swelling had existed for four days; but that, until the preceding day, he had voided urine without difficulty. Mr. Paget ventured to predict that this was a condition independent of any urethral lesion, and that a catheter would pass without difficulty; and, in effect, he succeeded immediately in passing a good-sized instrument, through which a considerable amount of urine flowed. He then, with a scalpel, freely incised the œdematous tissues. There was a little serous exudation, which had no urinous smell. Mr. Paget remarked that he had met with a case of similar description the year before last, and one also a few months ago. The man was removed to bed, and poultices applied; but he failed to rally from the state of collapse, and died a few hours afterwards.

"Mr. Eccles, the house surgeon, tells us that, on making an examination of the man's body, he found all the organs healthy. The urethra was quite sound, and the kidneys were free from disease. The man, it seemed, had led a very intemperate life.

"There are points of great interest, and, may we not add, of obscurity in a case of this kind. No cause could be discovered for this access of inflammation. There was no stricture, ulcer, or sinus upon which, according to Mr. Liston, such an attack of inflammatory œdema usually supervenes. No local reason, indeed, could be found to explain the origin of this attack, and we are left in complete ignorance of the cause of its selection of this particular site; and if we fall back upon the idea that it was probably of an erysipelatous character, we still cannot explain why inflammation of a few square inches of cellular tissue at this spot, so far removed from vital organs, should cause death. We are left, indeed, to the choice of two alternatives. The local inflammation may have been a result—not a cause—of the depressed nervous force so unmistakably marked in this patient. We know that gangrene of the scrotum and pelvis is not an uncommon result of typhus fever. Or, remembering the fatality which often attends a very similar inflammatory attack arising from infiltration of urine

in this quarter, we may concede the probability of a closer connection existing between this region and the great nervous centres than physiology is yet able to explain."

The writing of Mr. Liston, to which Mr. Paget refers, is entitled, "Remarks on the Acute Form of Anasarcous Tumour of the Scrotum."* It contains some interesting cases of an affection in the male closely resembling the case I am about to describe; cases of rapid distension of the scrotum with serosity, in which destruction of the cellular tissue and skin can be arrested only by very early and free incisions.

"This distension," he says, "is or is not attended by redness or erythema of the surface; but there is reason to think, from the suddenness of the accession, and from the appearances on exposing the cellular tissue, that there is no actual inflammation of its texture; there being no induration, nor any appearance of lymph or puriform fluid in the areolæ. The affection has generally supervened upon abscess or ulcer, perhaps trifling, in the perineum or groin. Its accession has been sudden, the swelling and tension becoming very great and alarming even within a few hours. The most dependent part, generally the

* *Medico-Chirurgical Transactions*, vol. xxii. p. 288.

posterior, will be found at a very early period to present one or more deeply-seated ash or tawny coloured spots. These extend; the integument is speedily involved; and, unless active measures be adopted, the entire coverings and investments of the testicles will be destroyed, and these organs exposed. . . . .

"The fluid effused, and which falls, as it were, into the cellular tissue of the scrotum, is often dark, putrescent, and acrid; it causes destruction of all the parts it comes in contact with, and subsequently of the skin, as certainly, and sometimes as rapidly, as if the parts were infiltrated by urine. Cases of sloughing of the coverings of the genital organs are very generally supposed to arise only from the latter cause; and it is with a view of directing attention to the diagnosis that the following cases are brought before the Society."

I shall, for an example, quote Mr. Liston's third case:—"W. R., aged 40. Admitted into the Royal Infirmary July 21, 1834. Received a kick on the perineum from a cow about a fortnight ago. There was much pain at the time; but the injury was followed by no further inconvenience until about eight days ago, when the pain returned, and was followed by considerable and rapid swelling of the scrotum. Nothing was applied to the swelling at the time; but,

as it continued to increase, he applied for admission into the hospital.

"Upon examination the scrotum was found to be much swelled and extremely tender. At the lower part it was of a dark livid colour; and, on pressing it, an emphysematous crackling was distinctly felt. There was little swelling in the perineum; but on the right side, about an inch anterior to the rectum, there was a small opening, irregular in its appearance, through which the dead cellular tissue protruded, and a small quantity of what was at first believed to be urine escaped. The pulse was small and rapid, the tongue dry in the centre, and moist round the edges. Bowels reported open; and states that he passes his urine freely. Immediately after his admission, free incisions were made into the scrotum, and the opening of the perineum enlarged. In both places the cellular tissue was found in a state of gangrene, and a considerable quantity of thin fetid fluid mixed with air escaped from the scrotum.

"The man was an habitual drunkard, and of weak intellect. He gradually sank, and died on the 28th of July, before the sloughs had separated.

"On dissection, the whole urinary apparatus was found in a perfectly healthy state."

My case is as follows:—

Mrs. N., a healthy young lady, recently married, and residing in India, was delivered, in a natural labour, of her first child in September 1863. After her confinement she suffered from what were described to me as repeated attacks of pelvic cellulitis, which rendered it necessary for her to keep bed almost constantly. Having still extensive disease in the pelvis, she was sent home and placed under my care.

I first saw her in August 1864. She had no complaint of pain, although she ached in various parts of the lower half of the body. Above the horizontal ramus of the right pubes, there was a rounded hard mass, giving the impression of something beneath as large as a big orange, scarcely tender, having an ill-defined outline, and not presenting distinct absence of resonance on percussion. Digital examination per vaginam easily made out that this mass bulged out of the right anterior quarter of the pelvic brim. It did not project downwards into the pelvic cavity. The uterus was behind it, immovably fixed. The cervix could be well reached by the examining finger, which also discovered hardness of the whole posterior half of the upper pelvis.

A blistered surface was kept open over the tumour just described, and it diminished in size, the health simultaneously improving.

As the lady resided at a great distance from me, I only knew by letter that on September 5, 1864, she was taken with rigors, which were not severe, and that her pulse rose to 120, and remained so for many days subsequently. She was very ill. On the 7th she complained of great pain in the pelvis, and an irritation of the rectum was set up, with frequent mucous discharges. These conditions continued till I saw her on the 9th September. I then found the perineum occupied by a large bulging tumour. The skin over it was dusky red. Examination showed that it was in size equal to a very large orange. In the middle of the mass, at its bulge, was a smaller protuberance, like the half of a small hen's egg. This was of a pale and death-looking colour, and its centre presented a red, prominent spot, like the pointing of a little abscess. The anus was displaced forwards, and to the right side, and was a long, curved opening, that would easily admit two fingers. The tumour had everywhere a soft, œdematous feeling, and there was little complaint of pain produced by the manipulations. Examination per vaginam showed that it nearly filled the pelvis, displacing the vagina forwards and to the right, as well as the cervix uteri.

I freely opened the smaller projecting mass, and

there issued a small quantity of dirty-brownish serous ichor, which was not fetid, but had a disagreeable odour. There also appeared to escape a little gas, which was scarcely fetid. Being disappointed at not finding matter, I pushed my bistoury into the mass, but nothing new came forth. I then passed my finger deeply through the wound, and found it enter into a soft lacerable mass of areolar tissue. There was no loss of blood in the operation, there being only the slightest bloody soiling, such as a single drop of blood might cause.

I did not see this patient again for some time; but she was under medical supervision. The sloughs were long in separating and coming away, and a profuse suppuration accompanied the process. The largest gangrenous masses came away last. The skin around the artificial opening had sloughed away to a considerable extent, making the original incision now an irregular open wound.

On October the 6th, I found the general health much improved. On examination I discovered a large excavation on the left side of the pelvis, communicating freely and largely with the rectum. All traces of the sloughy swelling previously described had disappeared. In this excavation the left sacro-sciatic ligament could be felt so denuded that the finger could be

passed around it. The fæces escaped freely by the incised external wound. Between the cavity of the rectum and the excavation there was a strong band just above the internal sphincter. I divided it with the knife. I subsequently also divided the sphincter ani where it separated the anus from the lateral wound. Before a month had elapsed the sphincter had completely regained its power.

In the month of November a large abscess formed on the site of the perimetritic hardening first described in the history of the case. It does not form an essential part of the case, and I shall only say that it was treated by incision through the roof of the vagina on the right side. Even after this, the patient had other attacks of inflammation and abscess.

In the month of December 1864, the rectum was believed to be healed. But she has never ceased to have occasional discharges of pus per anum.

Now, in 1868, she is fat, rosy-cheeked, and has long been in what she regards as perfect health. But there are still discharges of pus per anum, and the left side of the rectum feels unnaturally excavated, hard, and with elevations and depressions. Menstruation, which was suppressed during her long illness, has for more than two years been nearly regular. The uterus is still only partially mobile,

and there is much dense hardness in the posterior half of the brim of the pelvis.

This is the history of a lesion very rare in either sex—spontaneous, or apparently spontaneous, sloughing of a mass of cellular tissue in the pelvis—a sloughing that suggests the question of urinary infiltration, a question which is answered negatively; coming on also quite independently of any erysipelas or any surgical interference. In the male, such sloughing is not extremely rare in connection with slight or severe operations in the perineum or its neighbourhood; but, as I have already said, and as I otherwise know, such cases as I have here recorded of spontaneous sloughing do occur in the male. My case is also remarkable as an instance of recovery, for almost every case, whether spontaneous or not, of which I have heard, has proved fatal.

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RESEARCHES IN OBSTETRICS

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Lecturer on Midwifery in Surgeons' Hall Medical School, Physician for and Clinical Lecturer on Diseases of Women in the Royal Infirmary, Edinburgh, etc. etc.

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CRITICAL NOTICES.

From the Edinburgh Medical Journal.

To no one in recent times has obstetric science been indebted for more frequent and valuable contributions than to the author of the work now before us, which, as containing some of his most important views, we recommend to the earnest attention of our readers. Thoroughness is, as the perusal of these Researches will at once show, the distinguishing characteristic of all Dr. Duncan's work. This is the second volume which in the course of a few months the author has given to the Profession, and like the first, "On Fecundity," its various chapters are chiefly made up from papers published in different medical and scientific periodicals. These, we are told in the Preface, however, have all undergone revision, some having been so altered and added to as to be almost new, while a few of the essays are now published for the first time. It cannot be expected that in a notice like this we can enter with any minuteness into the numerous subjects of interest discussed in the work. To do so, would occupy more space and time than we have at our command, and we must therefore content ourselves with a brief reference to a few of those topics which appear to us to be of greatest general importance. The chapters on Menstruation in Pregnancy and Superfœtation are particularly worthy of attention. The essay upon production of Inversion of the Uterus is one of the most interesting in the book, and advances an original explanation of this untoward accident. No more valuable contributions to the science of obstetrics have been offered to the Profession in recent times, and no practitioner can flatter himself that he is abreast of the age who has not bestowed attention on Dr. Duncan's Researches. The production of such a work will do much to maintain the reputation of our famous medical school, and cannot fail to enhance the renown of its gifted author.

From the Lancet.

The essays composing Dr. Duncan's volume have been chiefly gathered from the writings of this physician in the various medical and scientific periodicals, though a few of the chapters appear now in print for the first time. Those which have already been published are, however, thoroughly revised, while some of them have been so altered and added to that they may almost be regarded as new. But whether the contents be new or old, they are of a most valuable character. The book as it now stands will be found a highly instructive and suggestive volume to obstetricians for many years to come. Amongst the mass of valuable matter which Dr. Duncan thus presents to the student, it is difficult to make any selections for comment. But probably one of the chapters which will most interest the general reader is that devoted to the history of the mucous membrane of the body of the uterus particularly, as regards the credit to be attached to the researches of William and John Hunter respectively.

From the British Medical Journal.

Bearing in mind the interest caused by Dr. Duncan's work on "Fecundity, Fertility," and its perspicuity and preciseness, the labour and

value of its varied and many tables, on seeing another book appear of the same author, we expected a further treat in literary food, and we can well say we have had an agreeable feast.

It has required a considerable period for proper digestion, but the result has been that we have found it wholesome and nutritive. The book is so well worth reading, on account of the clearness of statement, the accuracy of argument, the labour shown in many investigations, and the interest of the subjects brought forward, that we would not, by a too elaborate review, deter any one from its perusal. Nevertheless, its value as an addition to our obstetric literature demands more than a mere passing notice. . . . We think enough has been said to induce our readers to study this interesting work, which, together with his former one, places Dr. Duncan amid the front rank of those writers who bring to bear on the many abstruse points in our wide-ranging profession a scientific and philosophic mind.

From the Medical Times and Gazette.

We have left Dr. Duncan's book to the latter part of our article, chiefly because he is a pioneer, he is always breaking new ground, and the subjects of which he treats did not admit of comparison with the contents of the other volumes. . . . With the subject, which is probably new to most of our readers, we conclude our notice of Dr. Duncan's valuable contribution to obstetric science.

From the Westminster Review.

This book claims and merits the attention of those who are interested or engaged in the obstetrical branch of medical practice.

From the Athenæum.

There is no department of medical practice that has served so much to diminish human agony and preserve human life as that to which this volume is devoted. We know from actual statistics that, where formerly one woman in fifty perished, not more than one in two hundred and fifty perish now. This is due to the truly noble and philanthropic spirit in which medical men have pursued this branch of their profession. The great mass of facts which now constitutes the basis of the practice of midwifery has been accumulated by observations such as those of Dr. Duncan. He has for many years practised in that great school of obstetrical science.

From the New York Medical Record.

So varied are the topics discussed, and so concise the diction of the writer, and so interesting are the chapters to the thoughtful student, that it would be impossible to do justice to the work in a detailed review of its contents without taking each section in turn, and discussing at too great length the several views of the author.

Professedly an advanced book written by a master in the art, it will be found particularly serviceable to such as are teachers in this branch, and others who have the disposition to investigate some of the more abstruse points connected with the subject under consideration.

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In One Volume, 8vo, cloth, price 15s.

FECUNDITY, FERTILITY, STERILITY

AND ALLIED TOPICS.

BY J. MATTHEWS DUNCAN, M.D.,

Lecturer on Midwifery in Surgeons' Hall Medical School, Physician for and Clinical Lecturer on Diseases of Women in the Royal Infirmary, Edinburgh, etc. etc.

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CRITICAL NOTICES.

From the Lancet.

We owe many apologies to Dr. Duncan for having so long delayed a notice of his most valuable and important work. The truth is, it contains so much matter needing calm and attentive study, that we have been waiting for leisure to read, mark, learn, and inwardly digest the three hundred and sixty pages devoted to the analysis of facts from which deductions of a very remarkable and interesting character, in reference to the laws affecting the reproduction of the human species, have been arrived at. In truth, every one of the numerous chapters into which the author has classified his materials well merits distinctive critical analysis, and we are not without hope of so dealing with certain of them as opportunities may arise.

Part I. of Dr. Duncan's investigation relates to the determination of the comparative fertility or productiveness and fecundity of women at different ages; and in order to avoid confusion he defines fertility or productiveness to mean "the amount of births as distinguished from the capability to bear;" fecundity, meaning the demonstrated capability to bear children, "implies the conditions necessary for conception in the women of whom its variations are predicated. . . In short, fertility implies fecundity, and also introduces the idea of number of progeny; while fecundity simply indicates the quality without any superadded notion of quantity." The general conclusions under this first head are—1. That the great majority of the population is recruited from women under thirty years of age; but that the mass of women in the population between thirty and forty contribute a larger proportional share to the general fertility than do the women between twenty and thirty. 2. That the wives in the population, taken collectively, show a gradually decreasing fecundity as age advances; but that in individual wives the degree of fecundity increases till about the age of twenty-five, and then diminishes. The individual fecundity is described as forming a wave, which, from sterility, rises gradually to its highest, and then more gradually subsides again to sterility.

In Part II. the author treats of the weight and length of the newly-born child as indicative of the state of fecundity, or of the generative functional vigour, of the mother; the data in this instance being drawn from the records of 2070 pregnancies, with 2087 children, in the Edinburgh Royal Maternity Hospital. Dr. Duncan's view is that increase of weight and length of the child is in direct dependence on the age of the mother; and that a careful study of the subject goes to support the doctrine that the vigour of the female reproductive system waxes till about the age of twenty-five, and then wanes. Professor Hecker's researches confirm the influence of age, but they indicate an additional element in the number of the pregnancy.

Part III. is devoted to the elucidation of some laws relative to the production of twins, as to which the following are among the conclusions arrived at:—1. The largest number of twins is produced by women between the ages of twenty-five and twenty-nine. 2. The mean age of twin-bearing mothers is greater than that of mothers generally. 3. Newly-

married women are more likely to have twins the older they are. 4. A woman is more likely to have twins in each succeeding pregnancy than in the former pregnancy; the first pregnancy, however, forming an exception. 5. It is probable that twin-bearing women have larger families than women uniformly uniparous. It is stated that among women the birth of twins occurs once in about eighty deliveries.

In the numerous sections of Parts IV., V., and VI. are discussed the laws of the fertility of marriage; it is designated, "sustained fecundity," or the fertility of women cohabiting with men during the child-bearing period of life,—and also those of sterility; the mathematical skill of Professor Tait having been enlisted for the expression by certain curves and formulæ of the laws demonstrated by Dr. Duncan. A little rubbing up of one's knowledge of the signs and symbols of algebraic notation is essential to an appreciation of Professor Tait's mode of arriving at the general law that "fecundity is proportional to the number of years a woman's age is under fifty;" and it would occupy much more space than we can now afford were we to attempt even a partial summary of the hundred pages wherein Dr. Duncan has gathered together a mass of statistics illustrative of the fertility of marriage under a multiplicity of circumstances as to age, etc., the comparative fecundity and fertility of different peoples, and the probabilities of sterile marriage. Under this latter head we may, however, particularise one or two laws possessing a certain interest. 1. That the question of a woman being probably sterile is decided in three years of married life. 2. The older a fertile woman is at marriage, the older is she before her fertility is exhausted—that is, before the advent of relative sterility. 3. A wife who, having had children, has ceased for three years to exhibit fertility, has probably become relatively sterile—that is, will probably bear no more children, the probability increasing as time elapses. Dr. Duncan says that these conclusions will help medical men to estimate "the utility of the many vaunted methods of curing sterility which are now much in vogue, and which, considering the nature of the condition to be cured, justly excite anxiety for the honour of the profession in the minds of its best friends."

We come now to the two important questions in reference to puerperal mortality discussed in Part VII. Does the number of a woman's pregnancy regulate in any degree the mortality to be expected from lying-in? Does the age of the child-bearing woman regulate in any degree the mortality accompanying this function? To the first of these questions it is answered that the mortality of first labours is about twice as great as in all subsequent labours put together, the fatality of puerperal fever being in the same proportion; and that after the ninth labour the risk of death increases with the number. The age of least mortality is near twenty-five years, and from that point it gradually increases with the diminution or increase of age, the age of greatest safety in parturition coinciding with the age of greatest fecundity. Assuming the correctness of these inferences, it is clear that, as Dr. Duncan observes, a comparison of the mortalities of lying-in institutions cannot justly be made unless the conditions of primiparity and age be taken into account.

In Part VIII. the author points out the ages within which women generally should enter the married state, if they are guided by physiological laws; and it is shown that as the period between twenty and

twenty-five years is that in which marriage is found to be most secure of fecundity, and parturition attended with least danger, that is the best time for women to get married. This has reference to the safety of the mother; but it is found, also, that there is a greater survival of children born of women married between twenty and twenty-five than at any other ages, and thus there is another reason for the period selected.

Parts IX. and X. are devoted to the following propositions in reference to the duration of labour and pregnancy:—1. The mortality of women in parturition and childbed increases with the duration of labour. 2. The duration of labour is only an inconsiderable item among the many causes of the mortality of women in parturition and childbed. 3. That the real duration of pregnancy (the interval between conception and parturition) has not been exactly ascertained in any case. 4. That the average interval between insemination and parturition (commonly called the duration of pregnancy) is 275 days. 5. That the average interval between the end of menstruation and parturition is 278 days. 6. That neither of the intervals just referred to has a standard length, but varies within certain limits. 7. That there is evidence to establish the probability that real pregnancy may be protracted beyond its usual limits to the extent of three or four weeks, or even longer.

We have thus endeavoured to convey to our readers a general impression of the characteristics of certainly one of the most interesting contributions to medical statistics which we have ever perused. We are not prepared at the present time to discuss critically many points as to which difference of opinion will arise. Statistics, as we all know, have a name for being convertible according to the fancy of the manipulator; and it might possibly appear on close examination that some of the data used by Dr. Duncan are rather more limited than we should consider safe for formulating laws on the abstruse and complicated functions of reproduction. We say this, however, not with the least intention of depreciating the value of Dr. Duncan's investigations. The want of sufficient data was the greatest difficulty he had to contend with, and the marvel is that he has been able so fully to establish as much as he has done. Not one of the subjects treated but has a peculiar interest for the medical profession; and we therefore very earnestly recommend the study of the book to our readers.

From the Edinburgh Medical Journal.

Both from the great labour, care, and skill, expended in the working out of details, and from the importance of the results, as either new or confirmatory of what was previously known or merely conjectured, the work is one of sterling value. It forms an original and important contribution, not only to obstetric science, but also to the department of political economy which treats of population, and to the principles of life insurance. Within our limits it is not possible to enter fully into all the topics discussed. No justice can be done to the inquiries without a study of the book itself. Within the limits assigned to us we have been able to give only a very inadequate idea of the rich mine of fact and inference which this volume contains, yet enough has been said to justify and explain our recommendation of it as a work replete with original and valuable

information, the study of which is indispensable to all who are interested in the subjects of which it treats, or who are engaged in similar inquiries.

From the Medical Times and Gazette.

Freely as we have extracted from the stores contained in this volume, we can yet assure our readers that the mine is far from exhausted: we would strongly urge them to read it carefully for themselves. To Dr. Duncan, who is well known as one of the most distinguished Scottish physicians of the present day, we tender, in the name of this journal, the thanks of the profession for having presented us with a standard work, in which the results of former inquiries in the same departments of knowledge are judiciously blended with a large mass of original matter.

From the Scotsman.

The questions treated of in the volume before us not only affect the health and happiness of individuals and families, but exercise an important influence on the prosperity of states. Dr. Duncan has conducted his researches in a most complete and comprehensive manner, and has furnished us with a contribution to vital statistics most valuable, both from its elucidation of ascertained facts and from the gaps and uncertainties in our knowledge which it has shown to exist. It supplies us at once with an epitome of all that is known on the subject of which it treats, and places us on a firm basis from which to advance to new acquisitions.

From the Dublin Quarterly Journal of Medical Science.

In concluding this brief review, it is hardly necessary for us to express the high opinion we have formed of the work before us. By its publication Dr. Duncan has rendered an important service to medical as well as to statistical science. He has, moreover, set us a good example how to rightly conduct statistical investigations, so as to avoid the shoals and quicksands which beset the explorer in these regions. We are not speaking too strongly when we affirm that this, in truth, is an original and philosophical work, and gives abundant evidence of deep thought, severely logical exactness, and patient industry. On some of the important questions to which his researches refer, the data are scarcely sufficient in quantity to render the accuracy of his conclusions unimpeachable; but the author admits and regrets this, whilst telling us they were the only data available for his purpose.

From the North British Review.

The book which we are about to review is not a medical work, but a treatise on statistics referring to the topics named in the title. These statistics have been compiled and arranged with much care, and are handled by the author with acuteness and without prejudice. The book may therefore be read with pleasure and advantage by all who take an interest in the physical laws affecting the natural history of man and his social welfare. The book is not at all prolix or dogmatic, for Dr. Duncan belongs to the very valuable class of authors who collect and digest facts, but refrain from the reflections which these facts suggest. We have been

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tempted to indulge in some speculations, and feel certain that all readers who can think will find new matter for consideration in the book. They will find nothing garbled, no concealment, no prejudice, but a large collection of interesting materials intelligently arranged.

From the British and Foreign Medico-Chirurgical Review.

A valuable contribution towards the study of this subject. Our limits prevent us from undertaking more than a very brief survey of the opinions put forward, and we must refer our readers to the volume itself for the tables on which they are based.

From the Glasgow Medical Journal.

To do sufficient justice in a mere cursory notice to such a work as that on fecundity, etc., is simply impossible. The subject is a vast one, and comprehensive as is Dr. Duncan's treatise, he evidently does not claim the merit of having exhausted it. It would be difficult to find any one better adapted than Dr. Duncan for the task which he has so ably performed, and whereby he has rendered such valuable service to medical as well as statistical science.

EDINBURGH : ADAM AND CHARLES BLACK.